AN AID TO NEW BUSINESS

FOR the manufacturer of refrigeration equipment and the man who sells it, the *Refrigerated Food Section* is performing a valuable sales promotional service. Here are the reasons why:

What It Contains

The *Refrigerated Food Section* is publishing the news of the many developments in commercial applications. It is emphasizing the importance of proper refrigeration wherever foods are produced and prepared, in warehousing and distributing channels and *particularly in food service and food retailing establishments.* It is pointing out the refrigeration methods which will preserve original qualities in foods, provide economies in distribution and increase attractiveness and satisfaction *at the point of sale.* In short, it is providing a picture of the greater profits which can be made by *food producer and food merchant* through the use of modern refrigeration equipment.

Whom It Reaches

Specifically, in addition to regular subscribers to Electric Refrigeration News, the *Refrigerated Food Section* is reaching meat merchants and grocers, chain store executives, ice cream manufacturers, druggists, confectioners, restaurant owners, meat, fish, fruit and vegetable packers, and others. The extra distribution has averaged more than 2,000 copies. A list of subscribers to the *Refrigerated Food Section* only is being built up from among these groups.

How To Make It Work for You

If you are a manufacturer, distributor or dealer, you can use the *Refrigerated Food Section* as a definite aid in the promotion of commercial sales. Simply see that it reaches your commercial prospects. Do this by ordering extra copies for distribution by your salesmen. Or send to the News, names of companies to whom you would like to have sample copies sent.

Food merchants and food service establishments will welcome the information in the *Refrigerated Food Section.* Through reading it they will be better informed on the advantages of up-to-date equipment. Just use the coupon below.

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Send sample copies Refrigerated Food Section (no charge) to names given below.

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ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

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SERVEL USHERS IN COMMERCIAL LINE AT SALES MEETING

Field Representatives Attend Three Day Conference at Evansville

Evansville, Ind.—A brand new line of 15 commercial models made its debut at the annual conference of Servel commercial sales representatives here February 2, 3, and 4.

Introduced by Chief Engineer W. D. Collins, who not only designed the new commercial line itself but evolved production machinery for its manufacture, the 15 models were the center of attraction at the sales conference.

"Extreme flexibility" is the watchword of this new commercial line. From three bases and three compressors all 15 models are produced. Coils are interchangeable. Even more interesting is the fact that all models may be either air-cooled or water-cooled, and the cooling method of any machine may be changed by a simple exchange of parts.

Features of the new line are: double-tube, water-cooled condensers, shrouded air-cooled condensers, large receivers in bases, multiple "V" belt drives, and snap action operated controls.

Capacities range from 130 lbs. to 1540 lbs. ice melting effect per 24 hours.

The sales conference opened Monday morning, February 2, with a trip through the Servel factories. In addition to getting a glimpse of the methods by which the commercial machines are manufactured, the representatives also saw line production of the new Servel Hermetic household unit in full swing.

Pointed out to the delegates were the new furnaces, automatic machinery, and finishing devices which have been recently installed in the Servel plant to accommodate the greatly stepped-up production schedule which recently went into effect.

Carl Conkey, commercial sales manager and the man who planned and executed the details of the conference, kept the sales representatives in tow throughout the trip, and at its conclusion escorted them to the McCurdy hotel, where luncheon was served.

After the lunch was consumed, Chief Engineer Collins related the genesis of

(Concluded on Page 2, Column 3)

CALIFORNIA SOLON HITS UTILITY MERCHANDISING

Sacramento, Calif.—Under a bill introduced in the present session of the California legislature by Senator J. M. Inman, of Sacramento, the sale of electrical and gas appliances by public utility corporations would be prohibited.

Inman says his bill is sponsored by dealers in appliances, who complain that the activity of the public utility corporations in this field is injuring their business.

Power and gas companies have engaged in the sale of appliances in California for many years.

Meanwhile the Pacific Gas & Electric Co. announces its 1931 sales program, with its goal set at $8,350,000 for new electrical appliances, and at $7,675,000 for new gas appliance and material business.

Officials explain that the activity of its 500 salesmen will tie in closely with sales activities of dealers and contractors, and that the 1931 program calls for increased co-operation with dealers.

The sales quotas for both gas and electricity are substantially greater than the 1930 objectives, and the utility has budgeted approximately $1,500,000 for sales activities during this year.

For the benefit of its 14,000 employees scattered over 61,000 square miles in northern and central California, the Pacific Gas & Electric Co. is putting on a traveling road show which plays at

(Concluded on Page 2, Column 1)

ARMSTRONG SIGNS FIRM IN SHANGHAI

Spokane, Wash.—The Armstrong Ice Machine Co. has made arrangements with the firm of Kunst & Albers of Shanghai, China, to handle the Armstrong line of commercial refrigeration equipment.

The initial order placed by the Shanghai firm calls for five refrigeration units ranging in size from one-half ton to eight-ton capacity.

Gibson Announces Electric Units

Greenville, Mich.—With the production of three models, ranging in price from $157.50 to $280 f. o. b. Greenville, the Gibson Refrigerator Co. of this city, for many years a manufacturer of refrigerator cabinets, announces its entry into the manufacturing of complete electric refrigeration equipment. Quantity production and deliveries will begin about March 1.

The Gibson electric refrigerator will be marketed by the Gibson Electric Refrigerator Corp., of which Charles J. Gibson is president, Frank S. Gibson, Jr., vice-president in charge of sales, John Lewis, vice-president and general manager, and R. E. Wilson, advertising manager.

Distribution will be made through an entirely new set of distributors and dealers, according to Frank Gibson. Negotiations are now under way with applicants for distributorships in many large cities, states Mr. Gibson, and the company plans to push sales of these electric refrigerators throughout the nation in as short a time as possible.

Especial pride is evinced by members of the Gibson organization in the seven cubic foot model (illustrated on this page), which retails for $280. Priced at $209 is a five and one-half cubic foot job, while the four cubic foot model sells for $157.50. All are f. o. b. Greenville.

The exteriors of the all-steel cabinets

(Concluded on Page 2, Column 1)

C. W. HADDEN APPOINTED COPELAND SALES MANAGER

Mt. Clemens, Mich.—The appointment of C. W. Hadden as sales manager of the Copeland Sales Co., is announced by W. D. McElhinny, vice-president in charge of sales.

Prior to joining Copeland, Mr. Hadden was sales manager of the Velie Motor Car Co., Moline, Ill.; western divisional manager of Chrysler Motor Car Co., and assistant to William R. Wilson at the time he was president of the Maxwell Motor Car Co.

DIRECTS CAMPAIGN

HERBERT H. SPRINGFORD
chairman of the board of Servel, Inc., has been an active power in the direction of the Hermetic campaign.

G. E. PREPARES FOR ANNUAL CONVENTION

Cleveland, O.—More than 800 General Electric refrigerator distributors and salesmen from almost every state in the union will meet here Feb. 26 and 27 for the fourth annual convention of the General Electric Refrigeration department.

Included in this number will be approximately 150 cabinet members of the G. E. Toppers' club. These men have been chosen from more than 12,000 General Electric salesmen because of their sales records during 1930.

An entire downtown hotel, the Winton, ten stories high, has been reserved for the convention delegates, as well as entire floors in three other hostelries in the city, the Statler, Cleveland, and Hollenden. Headquarters will be maintained at the Winton.

On the program will be T. K. Quinn, recently promoted to a vice-presidency

(Concluded on Page 2, Column 4)

Leonard Improves Cabinet Designs

Detroit, Mich.—The Leonard electric refrigerator has a new dress. Three months after the introduction of this latest of Leonard products, marked changes in the external appearance have been made, although the machine design is the same.

The new models have beveled tops and doors, and a beveled lower panel instead of the rounded edges which characterized the former models. They have white lacquer enamel exteriors, and porcelain interiors.

The five cu. ft. refrigerator sells at $189.50 and the seven cu. ft. model for $257. Features of the refrigerators are extra-heavy insulation, a defrosting switch, "chillometer," and flexible rubber ice cube trays. Forty-two ice cubes can be produced at one freezing in the five cu. ft. model, and 81 in the larger one.

"The Leonard electric is true over-the-counter merchandise," maintains A. H. Jaeger, vice-president in charge of sales. "When service is necessary it is attended to by the dealer who sold the machine. He makes minor adjustments on the job, or returns the machine to the factory in the specially designed shipping case and installation tripod. Every dealer stocks a unit for replacing defective ones."

Marketing the electric refrigerator though the same jobber, retail furni-

(Concluded on Page 2, Column 2)

ALASKA OFFICIALS REFUTE RUMOR; NO COMPLETE UNIT

Muskegon, Mich.—Officials of the Alaska Refrigerator Corp. of this city have refuted the rumor that they are planning to announce an electric refrigerator.

Their main interest is the manufacture of ice refrigerators and cabinets to be used by regular electric refrigerator manufacturers, according to J. L. Gillard, general manager, who made the statement that at the present time they have no intention of building complete electric refrigerators.

AIR CONDITIONING NOW POSSIBLE IN HOME, SAYS STACY

Carrier Research Engineer Addresses Midwest Power Group

By John T. Schaefer

Chicago, Feb. 10.—(Special Wire to Electric Refrigeration News.)—Recent developments in the art have made air conditioning for the home a reality, A. E. Stacy, research engineer for the Carrier Engineering Corp., Newark, N. J., told some 400 delegates to the Midwest Power Engineering conference in the Stevens Hotel here tonight.

"Systems are now being put into service in homes," said Mr. Stacy, "which cleanse, warm, and humidify air which is circulated to all parts of the house by a fan. Thus air conditioning enters its greatest field, that of increasing human comfort."

Following Mr. Stacy's lecture, George A. Horne, vice-president and chief engineer of the Merchants Refrigerating Co., New York City, spoke on the future of central station refrigerating systems. A. H. Baer, president of the American Society of Refrigerating Engineers, presided.

"Where air conditioning is applied for human comfort," Stacy declared, "we are interested primarily with the effect of the atmospheric conditions upon the people.

"The general public impression has been that air conditioning for comfort amounts to nothing more than cooling air by refrigeration. Today the system used is one in which the humidity can be controlled independently of the cooling effect, and so that definite conditions of both temperature and of humidity can be produced in an auditorium, whatever the variations of heat or of human occupancy.

"This is accomplished without varying the volume of air circulated and without the addition of any artificial source of heat. The air introduced into the auditorium need never be below 65° F., thus avoiding cold drafts."

The result is obtained, Stacy went on to say, through an invention of L. L.

(Concluded on Page 2, Column 5)

MINNEAPOLIS-HONEYWELL TO ACQUIRE TIME-O-STAT

Minneapolis, Minn.—Pending ratification by stockholders of both corporations in their annual meetings February 17, all the assets and business of the Time-O-Stat Controls Corp. of Elkhart, Ind., will be acquired by the Minneapolis-Honeywell Regulator Co. of this city, the former organization to be operated as a division of the Minneapolis company.

Under the new plans the Minneapolis-Honeywell line will comprise the Time-O-Stat gas hot-water heater control, mercury tube switch devices, refrigeration controls, and electric sign flashers, in addition to its former line of damper regulators, controls for oil and gas burners, unit heater and sectional controls, stoker controls, individual radiator controls, and motorized valves and controllers for industrial processes.

Officials of both companies believe that improvements in temperature controlling devices can be developed and perfected more rapidly in consequence of having both engineering departments working together.

Also unnecessary and confusing duplications in certain equipment can be eliminated, they point out, and all items in the enlarged Minneapolis-Honeywell line will be made to complement each other.

DETROIT A.S.R.E. TO HEAR SELLMAN, DOREMUS

Detroit.—F. E. Sellman, vice-president in charge of sales of the Electrolux Refrigerator Sales, Inc., of Evansville, Ind., and R. C. Doremus of Geo. B. Bright, Inc., and the Detroit Ice Machine Co., will address the February 16 dinner meeting of the Detroit section of the American Society of Refrigerating Engineers. The dinner will start at 6:30 o'clock in the Webster Hall Grill, while the discussion will take place in rooms on the twelfth floor.

Mr. Doremus will give an illustrated lecture on commercial absorption machines, and Mr. Sellman will talk on domestic absorption machines.

Gibson Executive Demonstrates New Product

Frank S. Gibson, Jr., vice-president of the Gibson Electric Refrigerator Corp., helps Meredith Dick to discover that milk kept in the new Gibson can be a satisfying drink. The picture was taken in Mr. Gibson's home.

GIBSON ANNOUNCES NEW ELECTRIC LINE

(Concluded from Page 1, Column 2)

used in these models are lacquered white: the interior is porcelain-lined. Modernistic hardware has been designed and furnished by the Grand Rapids Brass Co.

Each model has the direct-drive unit in the top, with drafts provided in the back. High legs, and a temperature control placed just above the doors are also features.

The units are being assembled at the Gibson factory in Greenville. Commercial models are planned for the future.

Although the idea of building electric refrigerators had been considered for some time, it did not assume definite proportion until early in 1930. At that time there were brought into the organization:

R. T. Smith, the designer of the unit, who is now chief engineer. Mr. Smith spent six years with Frigidaire, and has acted as consulting engineer on many other developments of electric refrigeration.

C. H. Smith, assistant to the chief engineer, who had previously spent eleven years with Frigidaire Corp.

C. M. Brown, production and service manager, who has had experience in those lines with Frigidaire and Westinghouse.

H. M. Scarff, factory superintendent in charge of the manufacturing of the electric unit, who had served six years with Frigidaire as assistant superintendent of tools and equipment, and one year in the same capacity with Westinghouse.

G. C. Fricke, factory manager, who will have charge of the manufacture and development of cabinets. Mr. Fricke served many years with the General Motors Corp. and later as general superintendent of cabinets and assembly at the Frigidaire plant.

CALIFORNIA SOLON HITS UTILITY MERCHANDISING

(Concluded from Page 1, Column 1)

each important point—city, town or construction camp—in the entire district.

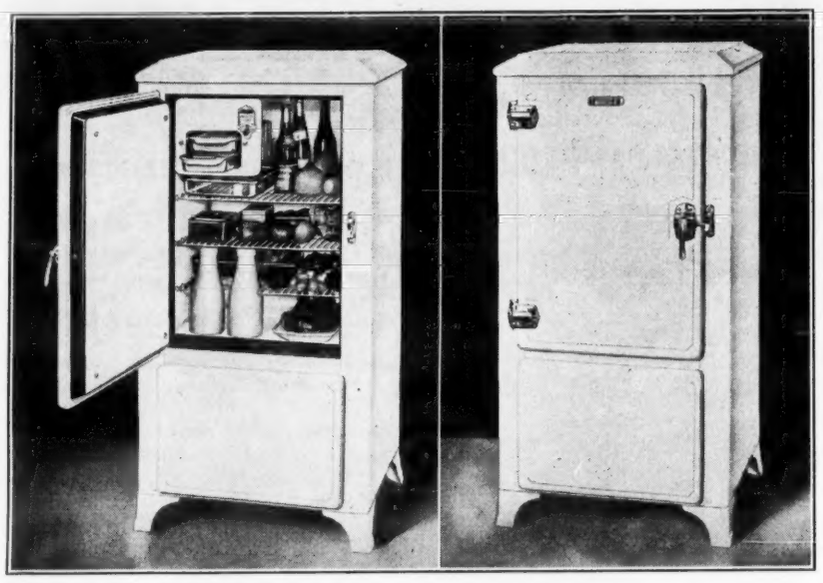
With the scenery packed on a three-ton truck, the show is traveling from Eureka and Redding on the north to Salinas on the south, under the direction of H. M. Crawford, sales manager of the organization.

The program begins with speeches by executives of the firm, presented by means of electrical recordings; then come one-act playlets which set forth the possibilities of sales in the domestic, industrial, commercial and agricultural fields of electrical and gas appliances and materials.

Coming:

A special section for service men.

Latest Leonard Electric Models



New Leonard Models With Beveled Tops

NEW DESIGNS SHOWN

(Concluded from Page 1, Column 4)

ture and hardware channels through which the Leonard ice boxes have been sold, Leonard officials are planning an extensive campaign for the spring.

A two-page spread of a four-color advertisement in the February 28 issue of the *Saturday Evening Post* will inaugurate the most intensive advertising program in Leonard's history, according to Mr. Jaeger. It will be followed up month *Ladies Home Journal*, and *Good Housekeeping* magazines.

KELVINATOR ANNOUNCES LOSS FOR FIRST QUARTER

Detroit, Mich.—Kelvinator Corp. reports for the quarter ended Dec. 31, 1930, net loss of $332,600, as compared with net loss of $87,000 for the same quarter 1929.

G. W. Mason, president, in commenting on the report, said: "The increased loss the first quarter is due to the volume of business being off, as compared with corresponding quarter of last year.

"Last year a demand for stock and display, unusual for the December quarter, was set up through the announcement of new models. This year the December quarter was devoted to clearing distributor and dealer stocks in preparation for the heavier shipping season just ahead."

DAVIS PROMOTED BY COLE

New York, N. Y.—William E. Davis, a veteran in the commercial department of Rex Cole, Inc., General Electric distributor, has been advanced to sales director of the water cooler division of the company.

SERVEL USHERS IN COMMERCIAL LINE

(Concluded from Page 1, Column 1)

the new commercial line, and explained some of the technical questions which were likely to arise concerning the interchangeability of parts on the various models.

In the afternoon the sales representatives listened to speakers sent by manufacturers of commercial accessory equipment. On the program were P. F. Forsyth of the Wagner Electric Co., W. H. Moore of the Century Electric Co., W. L. Jackel of the Allen Bradley Co., C. S. Hansel, president of the Filtrine Mfg. Co., H. C. Kellogg, president of the Liquid Cooler Corp., Ray Douglas, advertising manager of the Liquid Cooler Corp., and J. Toeber of the C. Nelson Mfg. Co.

Following the afternoon's discussions the representatives dispersed and sought rest and recreation before the evening dinner, again at the McCurdy hotel.

At the dinner two speakers were heard. The first was George F. Taubeneck, editor of ELECTRIC REFRIGERATION NEWS, who discussed future possibilities in commercial refrigeration. The second was L. U. Larkin, vice-president of the Larkin-Warren Co., who explained the operation of the Larkin coil, related a number of anecdotes concerning its sales, and answered questions.

Tuesday, February 3, was devoted to a series of talks given by members of the Servel home office organization. W. J. Auslebrook, commercial sales engineer, presented new commercial data tables, and C. J. Conkey, commercial sales manager, explored the new commercial sales manual.

Paul Jones, advertising and sales promotion manager, discussed Servel's extensive 1931 advertising program. Followed then C. L. Olin, service manager, who talked about service and installation problems. A. H. Remsen, franchise manager, concluded the morning program with a discussion of contracts and office routine.

A. L. Eastcott, assistant treasurer, and N. I. Townsend, comptroller, talked at lunch.

In the afternoon A. J. Bodenmuller, assistant sales manager, presented a plan for simplification of commercial detail. Methods of field co-operation were discussed briefly by Gordon Bloom of the Servel Hermetic sales staff. Roderic Peters of Washington, D. C., spoke upon the relations of the public utilities and the United States government.

An informal dinner at the Evansville Country Club concluded the day's program. Wednesday was entirely occupied with individual conferences.

Throughout the three days of the conference V. E. Vining, Servel sales manager, kept renewing the enthusiasm of the representatives, related innumerable howling anecdotes, and summarized and correlated the various talks that were made.

Commercial sales representatives present were: R. K. Eskew, Albany, N. Y.; L. M. Lane, New York City; W. A. Mahoney, Lockport, N. Y.; W. O. Dunn, Lakewood, Ohio; J W. Slowe, St. Louis, Mo.; A. DeB. Gaines, Chicago, Ill.; W. L. Tyson, Okolona, Miss.; O. L. McKinney, Atlanta, Ga.; and Roderic Peters, Washington, D. C.

From the export department at New York City came C. E. Colyer, T. Scharer, T. C. Carley and R. Crenst.

Those from the Servel organization at Evansville who attended the sessions of the three-day conference, in addition to the men named as speakers, were G. L. Roach, assistant sales manager; R. Miles of the order department, R. R. Harmon of the parts orders department, E. Pate and W. Cissel of the field service department, J. Hewson, Joe Elliott, and H. Lants of the advertising and sales promotion department, and T. A. Flaherty, office manager.

G. E. Prepares For Annual Convention

(Concluded from Page 1, Column 3)

of the General Electric Company; W. J. Daily, sales promotion manager of the refrigeration department; Manager P. B. Zimmerman; Miss Edwina Nolan, director of home service for the department; J. J. Donovan, manager of the apartment house division; W. H. Landmesser, commercial department manager, and A. C. Mayer, manager of the merchandising division.

Three Convention Troupes

Following the Cleveland convention three troupes, headed by J. J. Donovan, M. F. Mahony or W. J. Daily, and A. C. Mayer, will tour all parts of the United States to participate in the regional Monitor Top conventions which will be held beginning March 3 and ending April 2.

The group headed by Donovan, which is composed of Paul Dow, J. DeJen, L. P. Aurbach, H. T. Hulett, W. H. Crawford and a district representative, will make the following conventions:

March 3, Cincinnati, The Milnor Refrigeration Co.; March 4, Atlanta, W. D. Alexander Co.; March 6, St. Petersburg, Fla., Florida Electric Refrigeration Co.; March 9, H. & G. Refrigeration Co., Columbia, Mo.

March 10, Raleigh, N. C., Southern Refrigeration Co.; March 11, Richmond, Va., Commonwealth Refrigeration Co.; March 12, Washington, D. C., National Electrical Supply Co.; March 13, Baltimore, The Hines Co.

March 16, Harrisburg, Pa., N. K. Ovalle Co., Inc.; March 17, Philadelphia, Judson C. Burns, Inc.; March 18, Atlantic City, Eastern Hardware & Supply Co.; March 19, Newark, N. J., Philip H. Harrison & Co.

March 20, New York City, Rex Cole, Inc.; March 23, New Haven, Conn., Modern Home Utilities, Inc., and Newton-Parsons Co.; March 24, Boston, Gentsch & Thompson, Inc., Breckenridge, Inc,, and Eastern Service Refrigeration Co.; March 25, Portland, Me., Gould-Farmer Co.

March 27, Syracuse, N. Y., Page-Morris, Inc.; March 30, Rochester, N. Y., Wheeler-Consler Corp.; March 31, Buffalo, Erco, Inc.; April 1, Allentown, Pa., Page-Morris, Inc.

The troupers, led by Mahony or Daily and composed of the district representatives and B. M. Walthall, A. A. Uhalt, J. M. Walker, M. T. Bard and R. W. Durett, will make the following stops:

March 3, Pittsburgh, Ochiltree Electric Co. and W. N. Hogan, Inc.; March 4, Columbus, Bard-Barger, Inc., F. P. Lutz Co., Electrical Home Appliance Co.; March 5, Fort Wayne, Ind., H. G. Bogart Co.; March 6, Indianapolis, Hoosier Electric Refrigeration Co.

March 9, Louisville, Electric Refrigeration Co.; March 10, Nashville, Cope Bros.; March 11, Birmingham, Ala., Alabama Refrigeration Co.; March 12, New Orleans, A. G. Riddick, Inc.

March 16, Little Rock, Ark., O'Bannon Bros.; March 17, St. Louis, James & Co.; March 18, Chicago, R. Cooper, Jr., Inc.; March 19, Milwaukee, E. H. Schaefer Corp.

March 20, Madison, Wis., D. S. Stophlet, Inc; March 24, Detroit, Caswell-Stull, Inc.; March 25, Cleveland, Cushman Refrigeration Co. and the Willis Co.

The third group, in addition to A. C. Mayer and the district representative, is composed of R. H. Ferguson, A. L. Scaife, C. O. Hamlin, F. C. Chandler and J A. McFaddin. They will hold conventions at the following places:

March 4, Kansas City, Glueck & Co.; March 5, Wichita, Kan., Johnson Electric Co.; March 6, Oklahoma City, Antonio, Wright Bros., Griswold-Rogers, Inc., Edmundson Refrigeration Corp., E. O. Cone Co; March 11, Phoenix, George T Beuder.

March 13, Los Angeles, George Belsey Co.; March 16, Fresno, Valley Electrical Supply Co.; March 17, San Francisco, L. H. Bennett Co., Ltd.; March 19, Portland, Ore., The Liadley Co.

March 20, Seattle, Gordon Prentice Inc.; March 23, Butte, F. B. Connelly Co.; March 25, Salt Lake City, Frank Edwards Co.; March 27, Denver, B. K. Sweeney Electrical Co.; March 30, Omaha, Storz Electric Refrigeration Co.

March 31, Des Moines, Warde B. Stringham Co.; April 1, Minneapolis, Steuffer-Shannon Inc., Dakota Refrigeration Co.; April 2, Duluth, A. S. Dunning, Inc.

COPELAND SHIPMENTS IN JANUARY INCREASE 143%

Mt. Clemens, Mich.—Louis Ruthenburg, president and general manager of Copeland Products, Inc., manufacturers of commercial and domestic refrigeration, reports that unit shipments for the month of January were 142.92% above unit shipments for the corresponding period in 1930.

At the close of January business, unfilled orders were 47.75% above unfilled orders for the same period a year ago.

AIR CONDITIONING IS POSSIBLE IN HOME

(Concluded from Page 1, Column 5)

Lewis. The latter provides for two streams of air. One enters the air conditioner from the outside where it is cooled by refrigeration to a relatively low point.

The other stream is taken directly from the room, preferably through dry filters. These two streams of air are then mixed and introduced into the room through suitable overhead diffuser outlets.

The regulation of the cooling effect to varying requirements is obtained by varying the proportion of dehumidified air to that of recirculated air by a combination of dampers, Stacy pointed out. The relative humidity is controlled by fixing the temperature to which the air passing through the conditioner is cooled and saturated.

In general, the air passing through the air conditioner is cooled from 20° to 25° F. below the room temperature, thus insuring the desired relative humidity while the temperature at which the air was introduced into the room was entirely dependent upon the proportion of air recirculated to the air cooled.

"The fields in which air conditioning may be introduced for comfort are many and varied, and the broadening of this enterprise will greatly enlarge the requirements for refrigeration and power," Stacy said.

"Air conditioning has eliminated the summer slump in the theatre and made it equally healthy in the winter. Yet only 10 per cent of American theatres are air conditioned.

"Office buildings with complete air conditioning in all rentable space present a startling economic appeal to owner and tenant, yet there are barely half-a-dozen buildings now so equipped in this country."

Central station refrigeration will play an increasingly important role in densely populated districts, according to Mr. Horne, who likened it to an infant relation of the power and lighting central station systems.

The second speaker described a central station installation made by his company in the new Western Union building in New York City. In this installation calcium chloride brine is cooled in the Merchants Refrigerating Co. plant to 0° F. and piped under the streets to the Western Union building.

There it is used to cool drinking water for the 9,000 occupants, to make ice cream and ice, and to provide refrigeration for a restaurant.

FRIGIDAIRE TO CONDUCT 45 SALES CONFERENCES

Dayton, Ohio—Spring business conferences will be held in 45 key cities of the United States by Frigidaire Corp. during the next three weeks to present its 1930 program to the dealer and sales organization.

Six parties of factory representatives will leave here Feb. 14 and 15 for the meeting cities, to speak to the dealers and acquaint them with sales and advertising plans for the spring selling season.

Those who will go into the field include J. A. Harlan, vice-president in charge of sales; E. B. Newill, vice-president in charge of engineering; C. A. Copp, assistant general sales manager; B. J. Vandoren, commercial sales manager; H. C. Jamerson, sales manager; E. D. Doty, advertising manager; J. J. Nance, sales promotion manager; George S. Jones, Jr., head of the public utilities division; C. E. Quigley, head of the water cooling division; R. S. Prugh, manager of the sales organization division, and D. T. Hayward, of the sales promotion department.

Meetings will be held Feb. 16 at Philadelphia, Louisville, Grand Rapids and Memphis; Feb. 17 at New York and Wichita; Feb. 18 at Washington, Dayton, Indianapolis and Oklahoma City; Feb. 19 at Roanoke, Peoria and Salt Lake City; Feb. 20 at Boston, Norfolk, Detroit and Houston; Feb. 21 at Milwaukee, San Antonio and Denver; Feb. 23 at Pittsburgh, Cleveland, Chicago, Phoenix, Billings, Mont., and Portland, Ore.; Feb. 24 at New Orleans; Feb. 25 at Buffalo, St. Louis and El Paso; Feb. 26 at Birmingham, Minneapolis and San Francisco; Feb. 27 at Rochester, Atlanta, Davenport, Ft. Worth and Sioux City; Feb. 28 at Jacksonville, Dallas and Des Moines; Mar. 2 at Omaha and Los Angeles, and Mar. 3 at Kansas City.

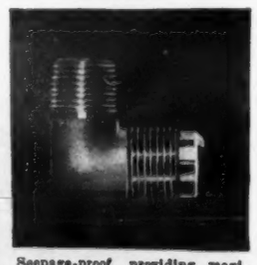
At these meetings salesmen and dealers, who sold or exceeded their 1930 quotas, will be awarded cash prizes. They will also be welcomed to the B. T. U. Club, Frigidaire's organization for members of the sales organization who perform outstanding jobs during the year.

ORGANIZED IN NORWALK

Norwalk, Conn.—The Richmond Refrigerating & Supply Co. has been incorporated to service and deal in refrigerating equipment.

Every tube seat is protected in shipping by a cardboard ferrule, assuring perfect fittings.

Any combination pipe and tube ends furnished on request. Send us particulars of specific needs.



Seepage-proof, providing maximum strength and positive guarantee against leakage of refrigerant.

FORGED BRASS FITTINGS

BUILT RIGHT TO STAY TIGHT

Down through the years since the first electric refrigerator was placed in service, this organization has served the industry with dependable fittings.

Today it is better than ever qualified in experience, personnel, machinery and product development to merit the continued support of refrigeration's leaders. Quotations cheerfully given.

Send for Catalog No. 36, describing our "Seepage-Proof" fittings, the most complete line fabricated.

COMMONWEALTH BRASS CORPORATION
COMMONWEALTH AT G. T. R. R.
D E T R O I T

STOP ten people at random

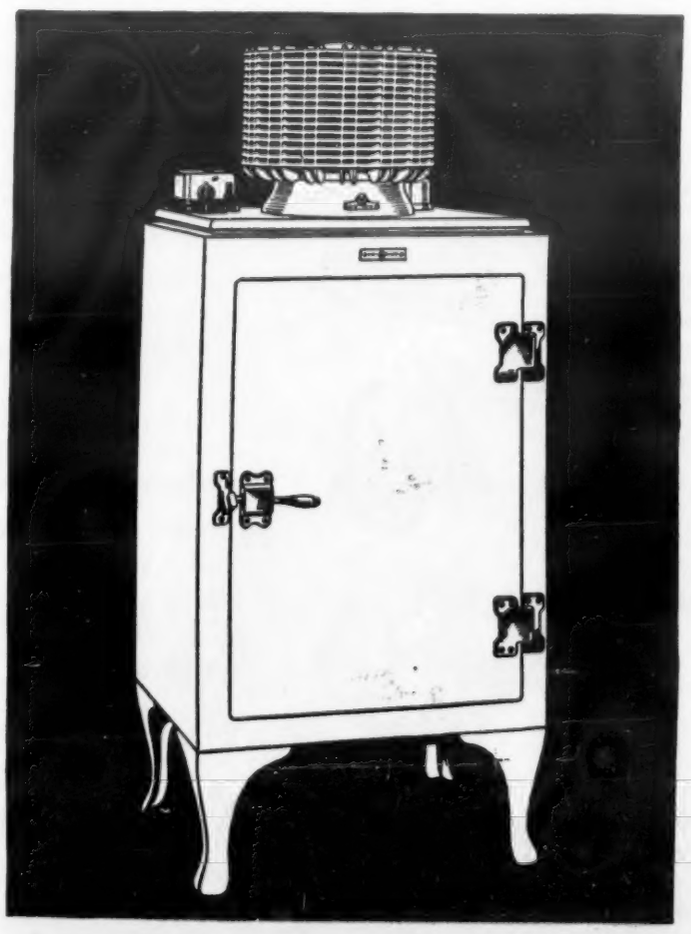
Ask them which refrigerator they prefer
...that will show you better than anything
else the refrigerator you should sell

IN thousands of American homes, the purchase of an electric refrigerator is just around the corner. These people may not buy tomorrow or next week, but don't forget one important fact—*THEY KNOW THE MAKE THEY ARE GOING TO BUY.*

So certain are we of General Electric's place in popular favor, that we ask every present or prospective dealer in electric refrigeration to make this test:

Ask the first ten people you meet, which electric refrigerator they prefer.
Talk to 20 or 30 people if you wish.
Then check the percentage who named "General Electric" against all the others. The result will be both illuminating and profitable in reaching a decision as to which line to sell.

You can fight Prestige—or you can harness it to your business for a long and profitable ride. Discover for yourself that the public knows and believes the story of the Monitor Top, with its hermetically-sealed, self-oiled, permanently quiet mechanism that eliminates the service bugaboo. The public is *acting* along those lines. Hence the heavy trend to General Electric—creating success and good will for General Electric dealers. General Electric Company, Electric Refrigeration Department, Section DF21, Hanna Building, 1400 Euclid Avenue, Cleveland, Ohio.

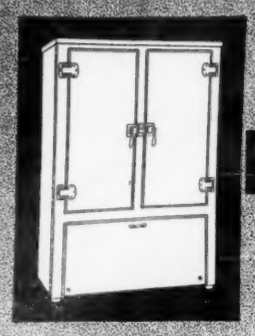


GENERAL ELECTRIC

ALL-STEEL REFRIGERATOR

DOMESTIC, APARTMENT HOUSE, AND COMMERCIAL REFRIGERATORS
ELECTRIC WATER COOLERS . . . ELECTRIC MILK COOLERS

Join us in the General Electric Program broadcast every Saturday evening over a nation-wide N. B. C. network



Rex Junior Model Cabinets are quality built in keeping with Rex traditions . . . Illustrated at the top of the advertisement is the Junior Model LP-J-70, or P-J-70. This same type of cabinet is also available in the smaller model LP-J-550 and LE-J-550, 5½' size. Both models are attractively priced. Write for complete details.

Rex

Rex Manufacturing Co. Inc.
Connersville, Indiana

SURVEY REVEALS BIG REFRIGERATION NEED

New York, N. Y.—Electric refrigerators represent the largest item of expenditures which subscribers of *Time* Magazine intend to make for their homes, according to a survey recently made by that publication among its 350,000 readers.

The percentage and number of readers who plan buying new commodities for their homes follow:

Automatic refrigerator	56.7% or	198,450
Gas heater	22.4% or	78,400
Oil burner	22.6% or	79,100
Electric water heater	14.1% or	49,350
Radiators	14.4% or	50,400
Plumbing, bath fixtures	26.2% or	91,700
Draperies	23.7% or	82,950
Flooring	16.5% or	57,750
Rugs and carpets	23.7% or	82,950
Furniture	26.5% or	92,750
Roofing	16.7% or	58,450
Garden equipment	14.0% or	49,000
Fences	10.6% or	37,100
Laundry equipment	15.3% or	53,550

Using $200 as the average cost of an electric refrigerator, a total of $39,500,000 will be spent by *Time* subscribers. A total of 86,750 subscribers intend to redecorate their homes; based on an average expenditure of $300 each, this expenditure comes to $26,000,000.

According to this same survey, 30 per cent of *Time* subscribers plan to buy new radios within a year; if the average cost is $165, this expenditure will amount to $17,500,000.

Coming:

A special section for installation men.

Saturation

Slightly higher than preceding estimates indicated, the first reliable figures on sales made by the electric refrigeration industry show a 14.7 saturation of the household market. This is real encouragement. The larger the number of users, the easier the sale of refrigeration becomes.

When a 25 per cent market saturation is reached there should be twice as many immediate refrigeration prospects as there are now. When the market is half sold the industry should be approaching its sales peak. When half the people of the United States have electric refrigerators the others will require no selling but will buy as fast as they can accumulate their first payment.

When the market nears a practical saturation point, the replacement business, plus the new homes being established each year, should provide a sales volume far in excess of that now being produced by electric refrigerator salesmen.—*Frigid Era* (Published by Frigidaire Corp.)

REFRIGERATOR, RANGE SALES SHOW INCREASE

A NOTABLE record of electric appliance sales during the first 10 months of 1930 has been reported for the National Electric Power group by T. E. Roach, vice-president in charge of the commercial department.

Electric range sales in this period in 1930 for all companies totalled 5,238 as against 3,250 the year before, a gain of 60.5%.

For electric refrigerators, the total was 6,738 compared with 4,987, an increase of 35%.

The total number of units sold in the 10 months was 11,976, an increase of 44.1% over last year's total of 8,237.

Of 21 electric companies included in the report, the first 10 ranked as follows:

Company	Total Units 1930	1929
1. Virginia P. S. Co.	3,155	1,559
2. Central Maine Power Co.	1,235	727
3. Jersey Central P. & L. Co.	1,227	1,249
4. Eastern Shore P. S. Co.	1,176	490
5. Cumberland Co. P. & L. Co.	776	504
6. P. S. Co. of N. H.	689	659
7. Penn Central L. & P. Co.	516	494
8. York Railways Co.	415	308
9. Florida Power Corp.	415	390
10. Tide Water Power Co.	390	213

DETROIT RANKS HIGH IN ELECTRIC APPLIANCES

Detroit, Mich.—This city leads 13 representative cities of the United States in the ownership of electric refrigerators, radios, and washing machines, according to a survey conducted by Emerson B. Knight, Inc., market analysts, for the *Detroit Times*.

Sixteen out of every 100 homes own electric refrigerators in this city, while in the other 13 cities an average of seven out of 100 homes use this appliance. Detroit also leads 12 of the 13 cities in the ownership of vacuum cleaners. The table shows that nearly half of the families in Detroit own a radio, a vacuum cleaner, and an electric washing machine.

The Knight survey found that 2.02 homes in 100 here are equipped with oil burners, and 4.4 per cent have electric ranges.

Ownership of Electrical Appliances, by Families, in 14 Representative American Cities

	Electric Refrigerator	*Vacuum Cleaner*	*Electric Washer*	*Oven Radio*
Average	7.68%	43.90%	27.70%	40.96%
Detroit	16.40% (66,060)	54.15% (218,080)	48.37% (194,820)	58.81%
Worcester	2.12% (933)	39.16% (17,230)	19.42% (8,545)	50.55%
Alton	2.25% (180)	36.75% (2,940)	35.25% (2,820)	34.50%
Dallas	2.06% (1,236)	34.38% (20,628)	5.45% (3,270)	30.73%
Troy	1.33% (321)	39.52% (9,508)	17.30% (4,162)	39.15%
Hartford	3.14% (1,290)	56.00% (23,005)	16.03% (6,885)	53.63%
Tuscon	2.47% (221)	18.52% (1,659)	13.58% (1,217)	16.54%
Boston	4.91% (20,888)	34.19% (145,459)	8.98% (38,193)	45.78%
Baltimore	5.70% (11,188)	29.20% (57,314)	9.55% (18,745)	32.50%
Buffalo	4.00% (7,348)	53.63% (98,573)	34.06% (62,605)	48.33%
Seattle	9.35% (9,879)	42.17% (44,557)	28.54% (33,155)	43.00%
Phoenix	2.34% (341)	20.60% (2,999)	22.53% (3,280)	16.21%
Cleveland	6.26% (16,108)	52.84% (135,968)	43.04% (110,750)	
Peoria	7.88% (2,100)	43.62% (11,620)	47.82% (12,740)	

NEMA DIVISION TO COLLECT STATISTICS

New York, N. Y.—"As you sow during 1931, so shall you reap in 1932" was the topic of an address made by President Clarence L. Collens at the mid-winter meeting of the National Electrical Manufacturers Association held here recently.

Mr. Collens summarized the points of his speech in a conclusion in which he emphasizes "the desirability on the part of each individual executive in the electrical manufacturing industry of utilizing the year 1931:

1. For continued effort towards stability, sound commercial practices and firm price policies.
2. For the development of adequate statistics.
3. For modernization of every character and constructive market analysis.
4. For a thorough cost review and a study of cost and price trends and of the relation between profits and capital invested."

Another interesting speaker was Merryle Stanley Rukeyser, financial writer for the *New York American* and 100 other newspapers, author of books and magazine articles, and member of Columbia University faculty.

He spoke on "Current Conditions—and the Way Out." As a means for promoting business stability, he advocated that the business world set up an organization which would continuously study basic industrial conditions and promptly report evidences of unbalance, deflation or inflation.

E. S. Aumend of the NEMA staff was appointed acting secretary of the refrigeration division, and A. W. Berresford, managing director, will personally supervise headquarters co-operation with the division.

It was voted to collect through NEMA headquarters and distribute to the members quarterly statistics on billings, factory stock and field stock of various classes of refrigerators segregated in three ranges of capacity.

Consideration was given to adopting as a recommended practice a uniform warranty on refrigerators.

The committee on commercial practices was instructed to review a form of warranty which the division had previously considered in 1929, but which had not been formally adopted because it was not thought entirely satisfactory.

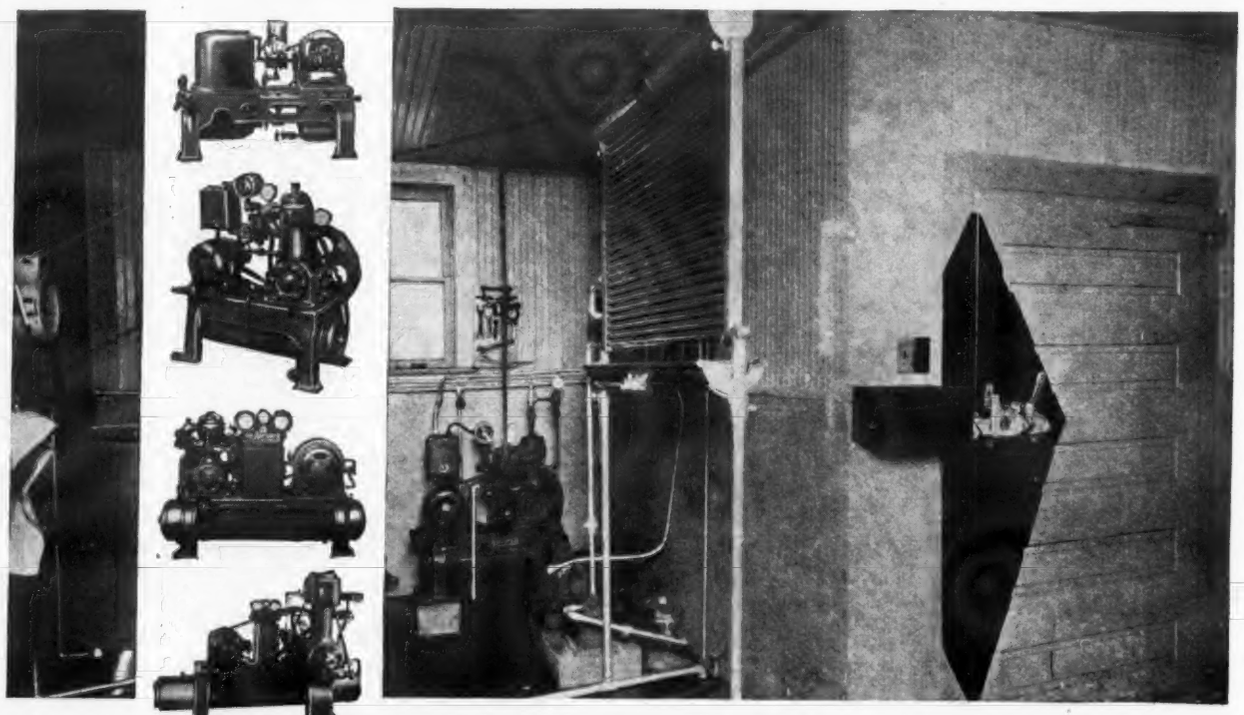
After review it is to be brought back to the division for final consideration.

In view of the desirability of having a standard method of rating for commercial machines, the division voted to refer this matter to the technical committee for study, this committee to refer its recommendations to a joint committee of its members and members of the committee on commercial practices.

Interest was expressed in methods of testing domestic refrigerators. It was voted to apply to have the NEMA representation increased from the present one to three individuals on the American Standards Association sub-committee, which has this matter under advisement. This is Sub-Committee No. 3 of Sectional Committee B38.

A proposed method of specifying gross and net cubic content and shelf area, tentatively prepared by the Division in 1929, was referred to the Technical Committee to be brought up to date.

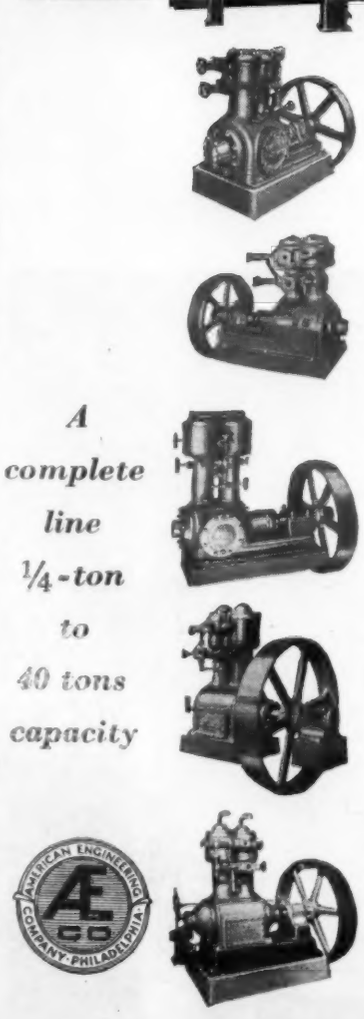
The following companies contribute the membership of the division: Copeland Products, Inc., Frigidaire Corp., General Electric Co., Kelvinator Corp., Servel, Inc., Universal Cooler Corp., Westinghouse Elec. & Mfg. Co., Climax Electric Refrigeration Co., Norge Corp., Rice Products, Inc., and Tennessee Furniture Corp.



Juruick Installation for cooling and storing milk in small dairy

Juruick

A complete line ¼-ton to 40 tons capacity



The JURUICK reputation is a big asset to any dealer who sells mechanical refrigerating equipment. Product of an engineering organization that has been building fine machinery for more than seventy years, JURUICK machines are serving every industry that uses refrigeration. The picture above shows the JURUICK supplying refrigeration for cooling and storing milk in a small dairy. It is typical of hundreds of JURUICK installations.

Mechanically correct, JURUICK machines stand comparison with any competitive equipment. They are chock full of good selling features . . . heavy crankshafts with large bearings; all parts machined in jigs and fixtures to insure interchangeability; cylinders hone finished; pistons accurately ground; close tolerances to promote high efficiency; correctly designed valves; easy access to all working parts.

There is a complete line of automatic self-contained units and ammonia compressors . . . fittings . . . accessories . . . and the new Hydro-Thermal Grids for low side cooling units. *The JURUICK dealer has the advantage of being able to meet any commercial refrigeration requirement.*

SOME CHOICE TERRITORIES ARE STILL AVAILABLE

AMERICAN ENGINEERING

AMERICAN ENGINEERING COMPANY, 2420 ARAMINGO AVENUE, PHILADELPHIA

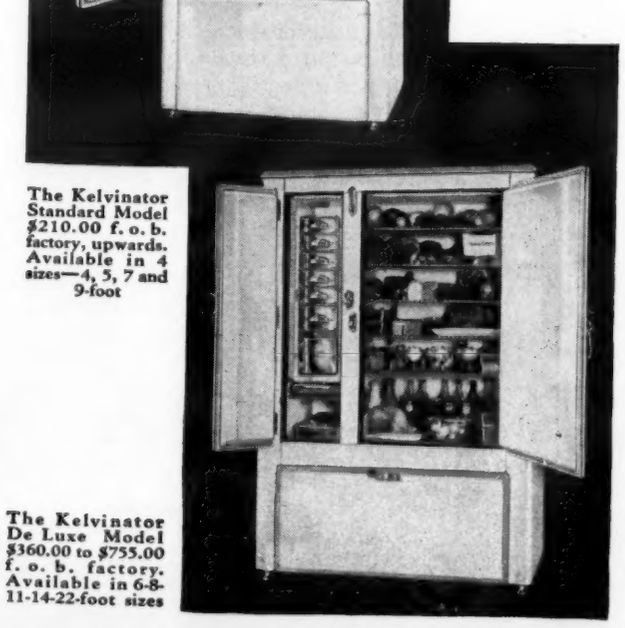
3.

341.

1.

THESE FIGURES TELL *A REAL STORY*

The Kelvinator Yukon Model $174.50 f. o. b. factory. Available also in 7-foot size



The Kelvinator Standard Model $210.00 f. o. b. factory, upwards. Available in 4 sizes—4, 5, 7 and 9-foot

The Kelvinator De Luxe Model $360.00 to $755.00 f. o. b. factory. Available in 6-8-11-14-22-foot sizes

In the past *3* months, *341* new dealers have come to Kelvinator for *1* reason only—because Kelvinator offers progressive merchants the greatest opportunity in the industry to-day *to make money.*

Never in Kelvinator's 17 years in the electric refrigeration business has there been so much interest in, and such a demand for, the Kelvinator Franchise. From every section of the country, dealers are writing to get the facts about Kelvinator — finding out first hand, the reasons why Kelvinator is so generally regarded as the biggest opportunity to-day for the dealer handling electric refrigeration.

And never has Kelvinator had so much to offer a dealer. The Domestic Line includes a Model for every price class—and each the leader in its class—a Model for every size home and every size income, making every prospect for electric refrigeration *a Kelvinator prospect.* The 1931 Line is unquestionably *the finest* Kelvinator has ever built—embodying, as it does, more exclusive, worth-while features than any other refrigerator. The 1931 Line of Water Coolers, Milk Coolers and refrigeration equipment for every refrigeration need gives the Kelvinator dealer a Commercial Line that represents another source of volume and profit. And behind this great product is the Kelvinator reputation and the Kelvinator name — the oldest in domestic electric refrigeration.

341 new dealers in 3 months shows unmistakably *the swing to Kelvinator.*

Send in the coupon below and get the facts about the most desirable agreement in the refrigeration industry to-day.

KELVINATOR CORPORATION
14245 Plymouth Road, Detroit, Michigan
Kelvinator of Canada, Limited, London, Ontario
Kelvinator Limited, London, England

Kelvinator

Kelvinator Corporation, 14245 Plymouth Road, Detroit, Michigan

Gentlemen: Please send complete information about the Kelvinator Agreement

*Name*_____ *Street*_____

*City*_____ *State*_____

*Line now handling*_____

(224)

COPELAND SCHEDULES DEALER CONVENTIONS

Mt. Clemens, Mich.—Copeland district dealer conventions for February have been announced by the Copeland Sales Co. The first convention will take place at the Hotel Roosevelt in New York City, Feb. 12.

Other district conventions will be held in New Haven, Feb. 16 and 17; Philadelphia, Feb. 19 and 20, and Albany, Feb. 22.

W. D. McElhinny, vice-president in charge of sales, will conduct the convention sales schools. He will be assisted by A. L. Bogue, assistant sales manager in charge of commercial refrigeration; D. B. Henry, of the commercial educational staff, and the distributors in each city where the conventions will be held.

Another series of conventions will be held in March and April in other cities to be announced later, it was stated.

ARMSTRONG-SPOKANE TO REPRESENT FRIGIDAIRE

Spokane, Wash.—Arrangements with the Frigidaire Corp. have been completed by the Armstrong Ice Machine Co. for handling the Frigidaire domestic and commercial lines in eastern Washington territory.

Along with refrigeration, the Armstrong Company will also distribute General Motors radios in the same territory.

The complete sales and service force of the P. F. Pickette Co., former Frigidaire distributor, has been taken over by the Spokane company.

The Frigidaire products and G. M. radios will be handled along with the line of Armstrong ammonia compressors.

Seattle Utility Devises Novel Demonstration

Seattle, Wash.—To demonstrate Electrolux refrigerators and their automatic operation, the Seattle Gas Co. has designed a novel show.

The equipment consists of a standard thermostat and burner attached to a board on which is also fastened a glass containing ice cubes. The thermostat is adjusted so that by placing the "chilliator" control bulb in a glass of ice the flame is brought down to a minimum and by holding the bulb in the hand the flame will quickly rise to maximum.

By placing the thermostat condenser bulb over the flame it is possible to show that when the condenser reaches a given temperature, the gas supply to the refrigerator is automatically shut off. Then by leaving out the flame the action of the Klixon disc in the burner is shown.

This demonstration has aroused considerable interest, according to Percy Black, head of the wholesale refrigeration department, who is shown in the picture. It is right in the path of everyone who comes into the show room, and an average of 30 people a day have stopped to watch the demonstration.

Another novelty on the sales floor is an open refrigerator showing two small children conducting a raid on the "goodies" stored therein. A large Neon electric sign with the word "silence" in light green placed on top of the cabinet adds materially to the general effect. Two Neon coils are inside, one among the "chilliator" fins and the other at the lower part of the cabinet. These Neon lights inside give a very cold light, giving the two dolls a quasi-human appearance.

AMERICAN RADIATOR CO. MAKES EXECUTIVE STAFF CHANGES

New York, N. Y.—Changes in the executive personnel of the American Radiator & Standard Sanitary Corp. were announced recently.

M. J. Beirn, vice-president and general sales manager of the American Radiator Co., has been appointed to the same position with the combined companies.

Charles B. Nash, vice-president of the Standard Sanitary Mfg. Co., has been named director of publicity.

A. R. Herske, former sales promotion manager of the American Radiator Co., has been appointed to the same position with the combined organization.

TAKES LARGER TERRITORY

Brattleboro, Vt.—The wholesale franchise for Vermont for General Electric refrigerators, formerly held by the Electric Device Co., with offices in Burlington, Vt., and Springfield, Mass., has been taken over by the Gould-Farmer Co. of 68 Free St., Portland, Me.

A.S.R.E. TO CONTINUE STUDENT CONTEST

New York, N. Y.—Student prize awards for research studies in refrigeration will again be offered by the American Society of Refrigerating Engineers. This year the student prize competition will be sponsored by the Frick Co., of Waynesboro, Pa.

The Research Committee, which has charge of the contest, announces that the competition is restricted to college and university students, including both fellows and graduate students. Undergraduates receiving the sanction of the faculty will also be allowed to enter.

General subjects suggested for the student papers are listed by the committee in the following main divisions:

1. Descriptive technical studies of unusual developments in industrial processes using refrigeration.
2. Library studies on selected problems in refrigeration, making available in co-ordinated form material now scattered.
3. Tests on selected commercial refrigerating apparatus under normal or test conditions.
4. Experimental research for new fundamental data on the physical media of refrigerating processes, or checking of existing data.
5. Theoretical studies; the original application of physical principles to the design of refrigerating apparatus, or to methods of measuring its performance.
6. Original studies in the sciences related to the use of refrigeration.

All papers must be in the hands of the Research Committee before Oct. 1, 1931, although arrangements can be made with the committee for receipt Nov. 1. Winners will be announced at the annual winter meeting of the Society in December.

Five awards, all being certificates signed by the President and Secretary of the Society, and the first three including cash prizes of $200, $75 and $25, will be given for the outstanding papers.

Information as to the full details of the contest can be obtained by writing to the American Society of Refrigerating Engineers, 37 West 39th St., New York City.

MASON, BURRITT TOURING SOUTHERN TERRITORY

Detroit.—President George W. Mason and Vice-President H. W. Burritt of the Kelvinator Corp. are making their third business tour since the October distributors' convention.

They completed visits to distributing and utility points of the west, southwest and northeast before the beginning of 1931.

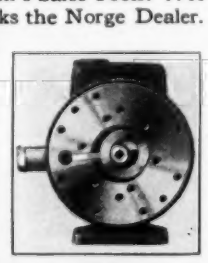
The itinerary of the southern trip, Feb. 5 to March 1, includes Indianapolis, Cincinnati, Louisville, Memphis, Little Rock, Nashville, Chattanooga, Atlanta, Jacksonville, Orlando, Tampa, St. Petersburg, Palm Beach, Charlotte, Raleigh, Washington, Pittsburgh and Cleveland.

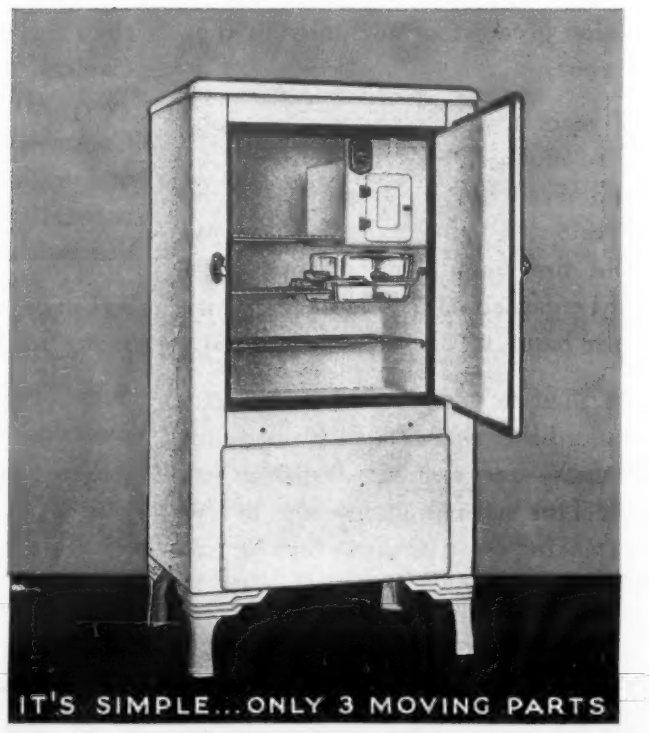
The FIRST BIG YEAR WITH NORGE

NORGE ROLLATOR

NORGE Electric Refrigerator has proved itself over a period of six years in world wide use and Norge is now stepping out. Norge stands alone now with a quality product, having more features in favor of the dealer than you'll find in any other major household electric appliance.

1. The Norge is package merchandise. 2. It's a short line—three standard models and two specials. 3. It's a fast turnover line—with small inventory. 4. It's backed by Borg-Warner Corporation. 5. A new merchandising plan is ready with suggestions for successful operation. 6. The plan is complete with everything from a Financing set-up to salesmen's Sales Tools. 7. A powerful advertising program backs the Norge Dealer. 8. The Norge has 34 superior consumer features—19 of them original with Norge. 9. Of these features perhaps the most important is the Rollator... Norge's distinctive, perfected mechanism. 10. Norge has superlative quality. 11. Norge, with the everlasting Rollator, is long lived. 12. Norge is low priced. 13. Norge is service free. 14. The chassis is completely replaceable, quickly, simply.





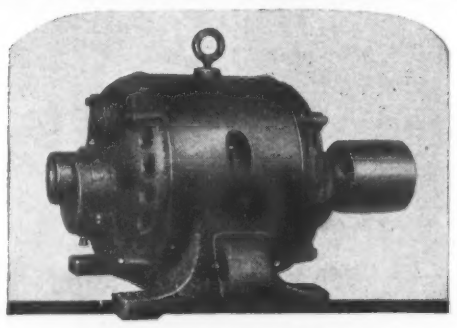
Yes! This is Norge's first BIG year. Norge has proved itself and is ready for deserved leadership.

Norge is worth while investigating. A letter now will bring full details, and quick action. Write.

NORGE CORPORATION (Division of Borg-Warner)
658 EAST WOODBRIDGE STREET, DETROIT, MICH.

NORGE WITH ROLLATOR

THEY KEEP A-RUNNING



10 Horse Power Century Type SC Squirrel Cage Induction 3 and 2 Phase Motor

Continuity of Service

Rigidity, due to the liberal use of material properly placed, and firm anchoring of a well insulated winding preserves the "Keep-a-Running" ability of Century general purpose application polyphase motors under the shocks of reciprocating equipment and the stresses and pounding of gear and chain drives.

Air spaces of substantial area to permit free circulation of air and thorough treatment of the winding with insulation varnishes, add to their value in dusty or damp atmospheric surroundings.

CENTURY ELECTRIC COMPANY
1806 PINE ST. - - ST. LOUIS, MO.

40 U. S. and Canadian Stock Points and More Than 75 Outside Thereof

Century MOTORS
FOR MORE THAN 27 YEARS AT ST. LOUIS

"This refrigerator is insulated with Dry-Zero . . . the most efficient commercial insulant known!"

At every stage of the sale, this brief, *conclusive* statement drives the idea of *quality* home to your prospects.

DRY-ZERO CORPORATION, MERCHANDISE MART, CHICAGO, ILLINOIS

Canadian Office — 465 Parliament St., Toronto

DRY·ZERO

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

WINNERS CARRIED ON WHEELS OF VICTORY

Santa Monica, Calif.—A tally-ho of early vintage rolled slowly through the fashionable boulevards of Santa Monica and up and down the busy downtown streets recently as nine weary and perspiring men trudged along in front clutching the center-tree. On top of the coach sat eight smiling General Electric refrigerator salesmen and their chief, Ted Hunt, manager of the Santa Monica branch of the George Belsey Co., Ltd., Los Angeles distributors for General Electric refrigerators.

And thus did these nine men, and two others, also branch managers, pay for the challenge hurled by red-headed Thomas Hastings, manager of the Hollywood branch. The two others, by the way, trudged in front of their nine companions, carrying on their shoulders the cause of all the trouble.

In an open sales meeting last December, Hastings gave vent to his good-natured ire over Hunt and his men winning the coveted Mayer trophy for quota realization six out of eleven months up to December, and, in doing so, challenged the Santa Monica branch to another contest, in which all of the 12 branches participated. The winner and his sales crew were to be propelled through the streets of their city by motive power furnished by the losers, it finally was agreed.

Celebration of the victory was held in conjunction with the annual Toppers' fete, and only once did the losers balk. That was when a traffic officer stopped the "parade" in the downtown section and threatened to arrest all of the participants. Hunt, however, instead of submitting meekly to arrest, talked the officer into furnishing a police escort for the frolicking salesmen over the remainder of the route.

Victorious Salesmen Reap Rare Reward

Winners of G-E Sales Contest About to Start on Tally-ho Ride

PUNCH BOARD REWARDS BOOST SALES IN HAGERSTOWN

Hagerstown, Md.—The Hagerstown group of the Central Public Service System is making good use of the punch board idea for pushing sales of major appliances, including the Electrolux gas refrigerator. A small punch board, about the size of a slice of bread, provides 200 holes for punching.

Any employee turning in a prospect which results in the sale of an appliance within a thirty-day time limit is entitled to one punch.

The value of the punches range from $1.00 to $10.00 each. Immediately upon punching the number the employee gets the cash.

DETROIT BRANCH OPENED

Detroit, Mich.—The Niagara Machine & Tool Works of Buffalo has opened a branch office in the General Motors Building here.

This new office is in charge of Russell J. Caplin for the distribution of sheet metal working machinery.

TRUPAR MEN WORKING ON SPEEDY SCHEDULES

Dayton, Ohio—More Mayflower electric refrigerators are coming off the production line at the Trupar manufacturing plant here than ever before, officials of the company stated early this week.

Shortly after the placing on the market of the 1931 period style Mayflower, carload orders for hundreds of units for spring sales campaigns have been received from distributors in all parts of the country.

In addition to a cabinet of new design, marked engineering changes are to be found in the 1931 Mayflower. A new type cooling unit of white porcelain, ribbon type shelves, "speed-freeze" unit (which freezes ice cubes in 90 minutes), temperature control located on the front of the cooling unit and serving also as a defrosting switch; and the new "removal-shelf," which provides extra space when needed, are a few of the added features of the new 1931 Mayflower.

H. J. Hunt, president of Trupar, has sent the following message to members of the Trupar sales organization:

"During a year of business depression the Mayflower business was practically doubled.

"This seems to me a clear indication of the tremendous market that electric refrigeration offers. Today electric refrigeration is taking its place with other household necessities, such as the electric washer, electric sweeper, etc. This means that it is becoming an over-the-counter commodity, and will be sold as a necessity instead of a specialty.

"And what does 1931 promise? Already the first signs of increased activity are apparent on the business horizon, and without a doubt the electric refrigeration industry will experience a decided impetus throughout the present year."

CENTRAL STATION MEN INSPECT G. E. FACTORY

Schenectady, N. Y.—Thirty-eight central station representatives and a dozen guests of the commercial department of Rex Cole, Inc., New York distributor for General Electric refrigerators, made an inspection trip recently through the General Electric Co. plant here upon invitation of the distributor. The guest party, accompanied by 23 members of the Rex Cole organization, were transported in a special train.

T. K. Quinn, recently promoted to the vice-presidency of the General Electric Co., and Frank W. Smith, vice-president of the United Electric Light & Power Co., bid the trainload farewell at New York. Upon their arrival in Schenectady the guests were breakfasted at Hotel Van Curler, where C. E. Eveleth, General Electric vice-president, was introduced.

An inspection of the division manufacturing refrigerating units and cabinets was followed by a luncheon at the Mohawk Country Club, where Paul Dow, director of Refrigeration Institute in Cleveland, introduced Chris Steenstrup and other officials of the General Electric Co.

COPELAND NAMES NEW DISTRIBUTORS

Mt. Clemens, Mich.—The Copeland Sales Co. announces the appointment of the following new distributors: Peoples Hardware Corp., Harrisonburg, Va.; Zee-Rad Co., Inc., 913-15 Liberty Ave., Pittsburgh, Pa.; Richard H. Tait, Inc., 12 Norwich St., Worcester, Mass.; Monroe Furniture Co., 132-138 N. 2nd St., Monroe, La.; Appliance Engineering Co., 622-626 Beacon St., Boston, Mass.; Thor Pacific Co., 1001 South Hope St., Los Angeles, Cal.

KELVINATOR-CANADA HOLDS BIG MEETING

Toronto, Ont.—Kelvinator representatives turned out more than 150 strong at the second annual dealer convention held by Kelvinator of Canada, Ltd., here, January 22-23. Dealers from as far west as Winnipeg and as far east as Charlottetown, Prince Edward Island, were on hand for the convention.

Business sessions held in the I. O. O. F. hall were under the chairmanship of F. S. McNeal, general manager.

New refinements of 1931 Kelvinator domestic models were explained and demonstrated by Park Manross, assistant general manager. Dry system, cross fin cooling units and other new commercial equipment were discussed by C. M. Bonham, manager of the Hamilton branch.

A. V. Phillips, commercial sales manager, described production methods employed at the factory. Kelvinator's advertising program for 1931 was laid before the dealers by W. G. Abel, of Cockfield, Brown and Company, Limited, Toronto advertising agency.

Sales promotion was covered by three speakers. Sales schools were discussed by Park Manross, who introduced a new method of commercial sales training. A. Sheedy, of Kardex, explained the features of a new prospect record system which his company has developed for Kelvinator use. D. T. Kelley outlined the sales helps and literature and summed up the entire advertising and sales promotion program with a short playlet.

The relation of sales to service was the subject of a talk by B. H. Bull, installation school instructor.

C. M. Armstrong, vice-president of Refrigeration Discount Corp., Detroit, mentioned the increasing trend toward installment buying. "In these days," said Mr. Armstrong, "none of us are ashamed to use our credit."

Howard A. Lewis, treasurer of Kelvinator of Canada, was the last speaker on the program.

At the banquet held in the evening, January 22, at the Royal York Hotel, the guest speaker was Dr. James W. Barton, who spoke on "Health in Its Relation to Food."

The second day's program consisted of tours to various commercial installations in the city of Toronto, visits to the Swift Canadian Co. and the warehouse of the Great Atlantic and Pacific Tea Co.

Dealers declared themselves highly pleased with the convention program. Headquarters were at the Royal York Hotel.

O. A. ANDERSON TO HEAD CHICAGO A. S. R. E. GROUP

Chicago, Ill.—Oscar A. Anderson, supervising engineer of Armour & Co. of this city, was elected chairman of the Chicago section of the American Society of Refrigerating Engineers in the regular meeting, Tuesday night, January 27.

George F. McDonald, of Cudahy Packing Co.'s engineering department, was elected vice-chairman, and B. E. Seamon, of the Westland Engineer Co., was named secretary-treasurer.

The speaker of the evening was Hal W. McPherson, who presented an informal discussion of "The Present Situation in Domestic Refrigeration."

He spoke of the design of most of the prominent makes of domestic refrigerators, mentioning features of operation, control, and temperature, which he pointed out have a direct bearing on the successful operation of these machines. He told why some machines are now extinct, and why several are still in the experimental stages.

In concluding his talk, Mr. McPherson voiced the opinion that the present development of mechanical refrigeration is advanced enough to outsell the old ice box, but that ice refrigeration will survive almost indefinitely. These remarks evoked discussion that lasted for about 40 minutes.

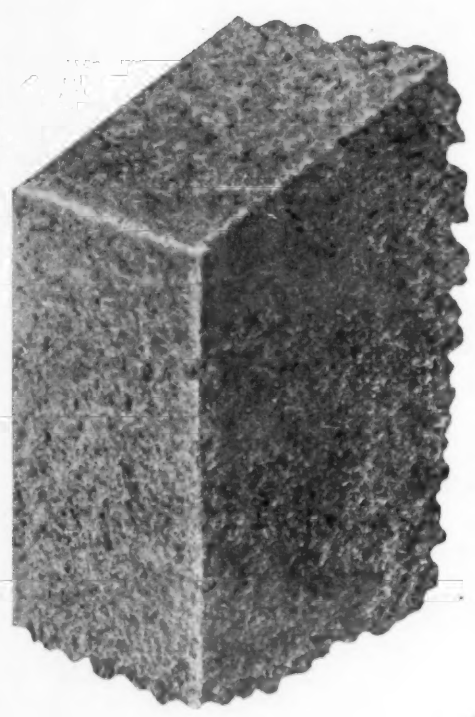
SPRINGFIELD COMPANY QUITS FIELD

Springfield, Mass.—Charles Rice, Inc., 331 Dwight St., for some years Copeland distributor, has liquidated. Wholesale business in the four western counties of Massachusetts and Hartford county, Connecticut, has been taken over by the New Haven Electric Co. of New Haven. A number of new dealers will be appointed.

NEW BRANCH OPENED AT MIAMI BEACH

Miami, Fla.—Kelvinator-Miami Co., distributors, 50 W. Flagler Street, has opened a branch salesroom at Miami Beach. The new shop is located at 1429 Washington Avenue, and will be maintained for the convenience of the residents of that ocean front and exclusive suburb of Miami.

One Manufacturer Asked Us This Question:



"DOES TEMLOK RESIST MOISTURE?"

Because Armstrong's Temlok satisfactorily meets this severe test, as it does other tests, this new, low-cost fibre board assures efficient and economical insulation

INSULATION, to be efficient, must have high resistance to moisture absorption. Temlok, Armstrong's new low-cost fibre board insulation for domestic refrigerators, satisfactorily meets this requirement.

Based on the 30 minute absorption test, as specified by the U. S. Bureau of Standards, Temlok's moisture absorption is only 10.1 per cent—an exceptionally low amount.

To make sure that your refrigerators give efficient—and economical service, specify Armstrong's Temlok Refrigerator Insulation.

Armstrong's Temlok has other advantages to offer you, too. This new insulating board, fabricated from the golden heartwood fibres of Southern pine, has low conductivity of heat, light weight, rigidity, and structural strength. It is sterile and odorless.

Remember, too, that Armstrong's Temlok can be supplied in half-inch and solid-inch thicknesses and in built-up layers as desired. Temlok Refrigerator Insulation can be cut to size, in any thickness, to provide refrigerator manufacturers with custom-made board that can be quickly and economically installed.

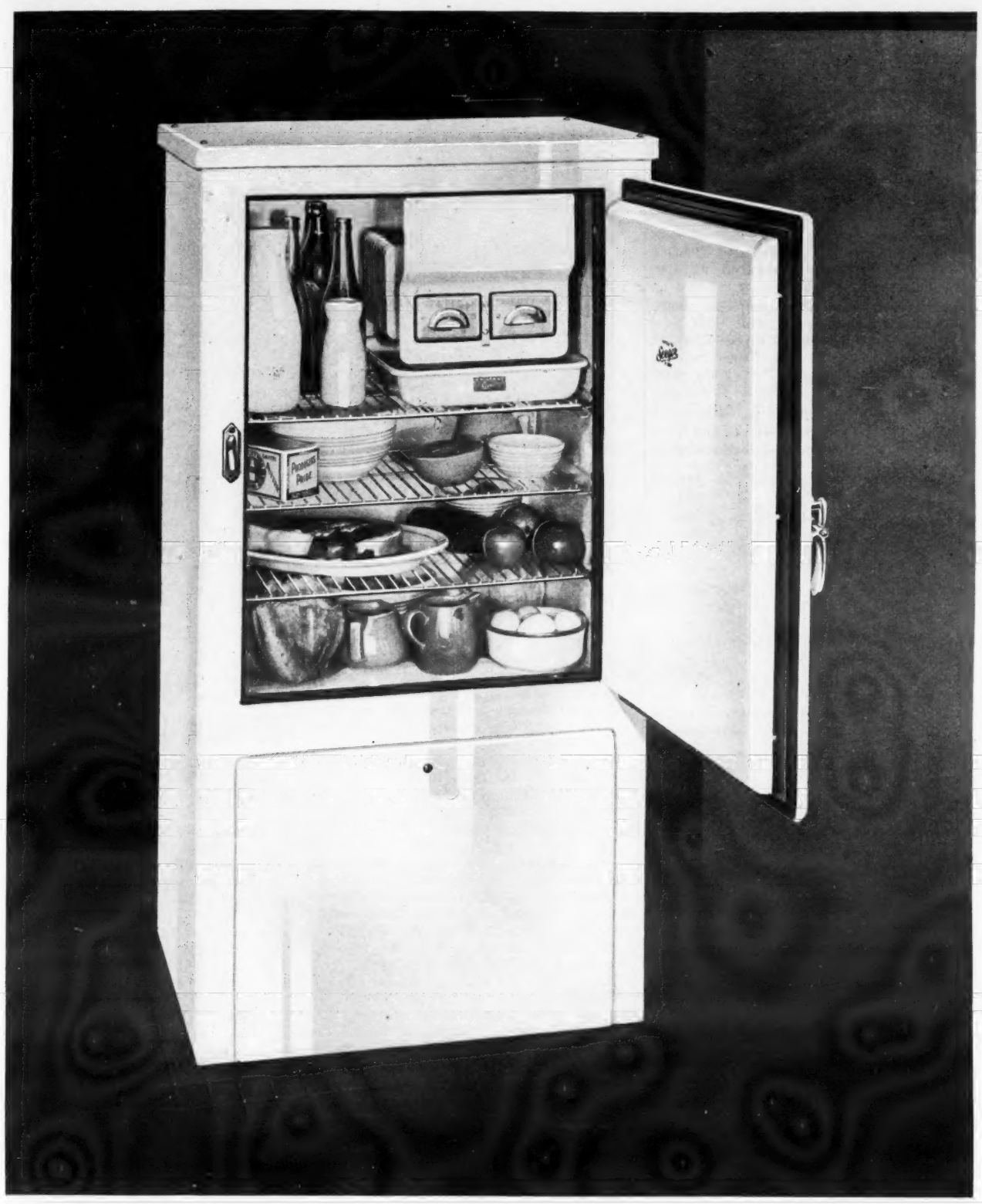
Armstrong's Temlok Refrigerator Insulation measures up to the high standards of excellence set for all Armstrong products. In the development of this new fibre board insulation, Armstrong has been guided by experience in the insulation field extending over more than a quarter of a century. This is your assurance that Armstrong's Temlok will provide efficient and economical insulation for your refrigerators.

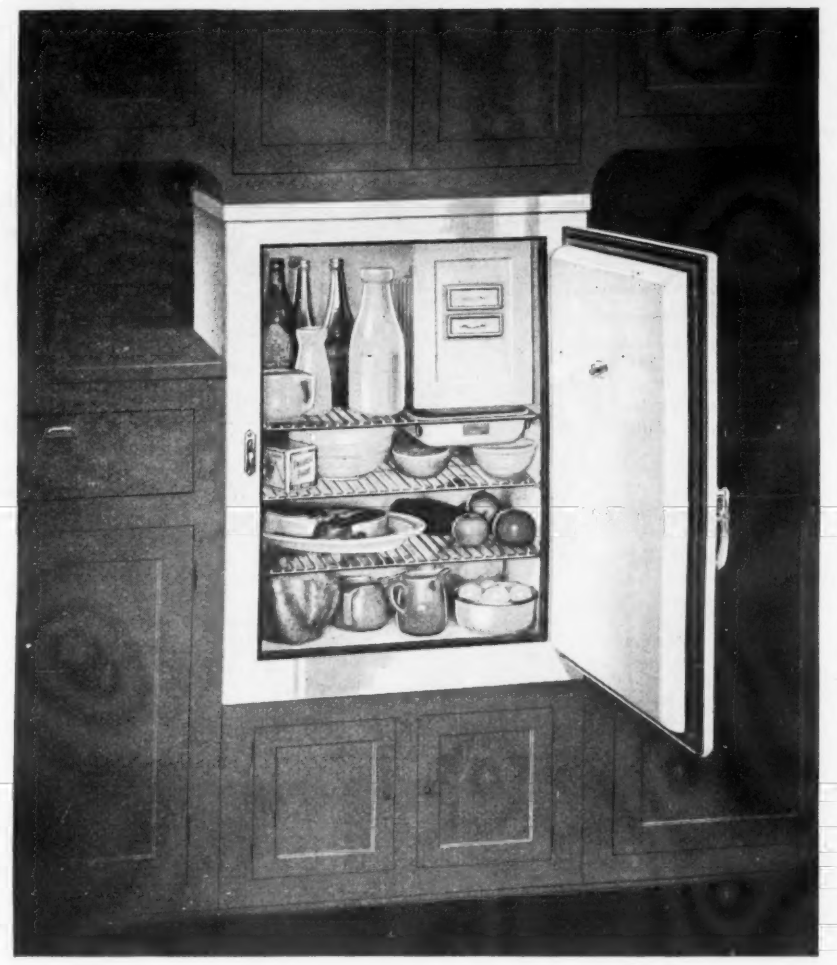
Cost? All the advantages of Armstrong's Temlok are available at a very reasonable cost. Let us send you complete information and samples of Temlok Refrigerator Insulation. Write the Armstrong Cork & Insulation Co., 917 Concord St., Lancaster, Pa.

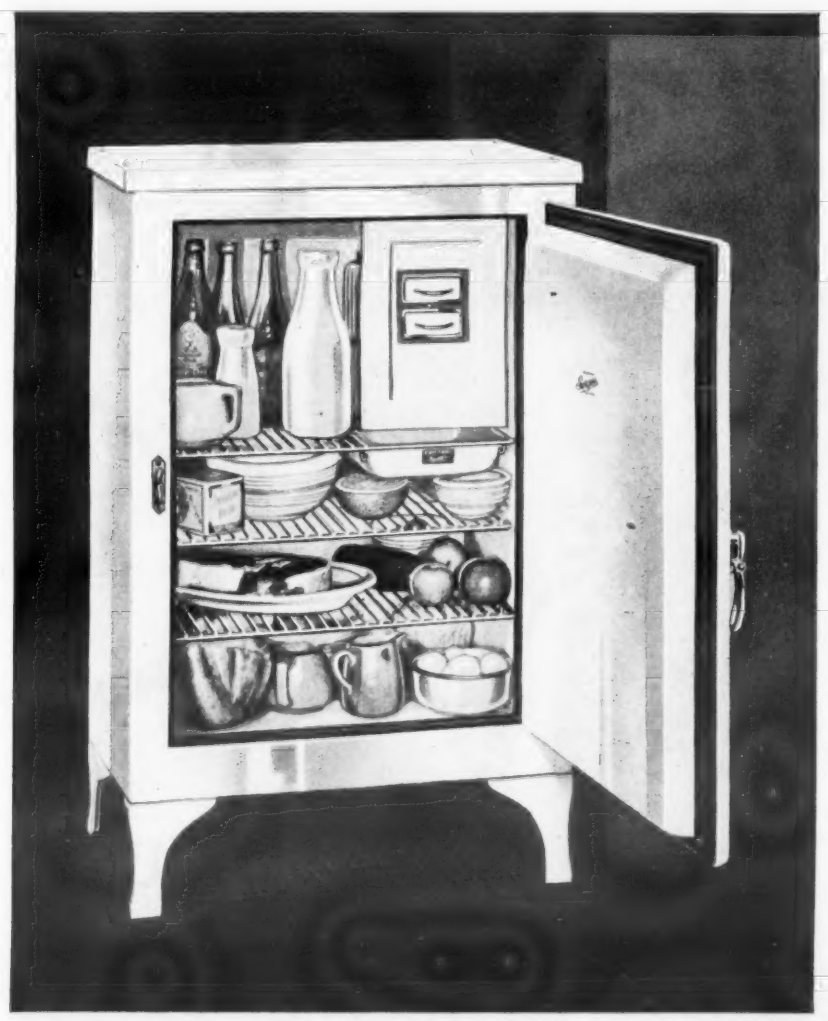
Armstrong's (A) Product

Armstrong's Temlok

Low-cost, Efficient Insulation for Refrigerators







APARTMENT CABINETS

BY

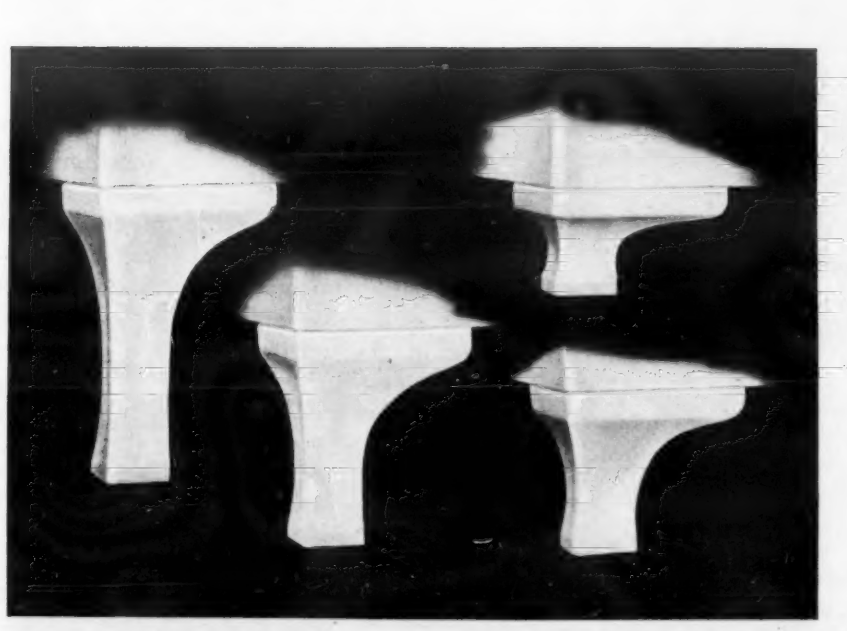
Seeger

SAINT PAUL

Seeger undisputed quality at an astonishingly low price. Adequately insulated and constructed to give satisfactory service for years, the Cabinets shown have genuine Lacquer exteriors with porcelain interiors.

These Cabinets may be had in 3, 4 or 5 cubic feet capacity with compressor compartments, without legs or with legs. Legs to be had 4, 6, 8 or 11 inches high, meeting all requirements.

Apartment Refrigeration Cabinets by Seeger in All Porcelain may be had in 4 and 5 net cubic feet capacity.



SEEGER REFRIGERATOR COMPANY

Madison Ave., Between 46th and 47th Sts. NEW YORK, N. Y.

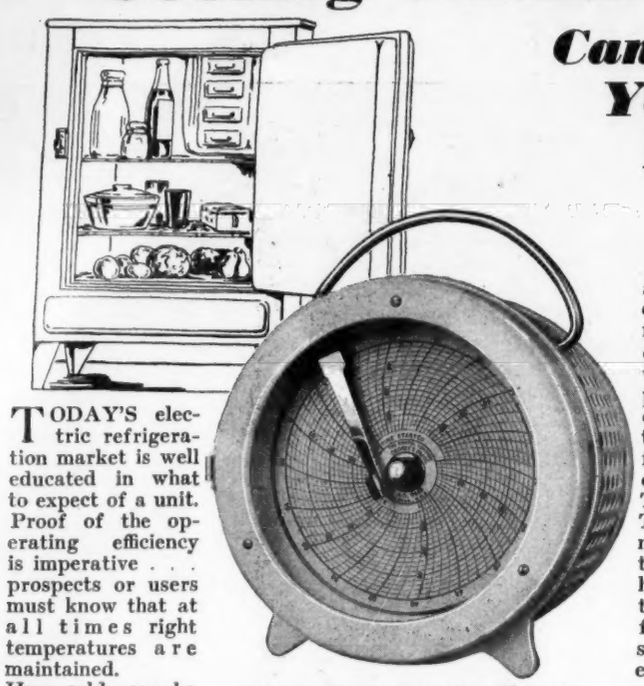
655-57 So. La Brea Ave. LOS ANGELES, CAL.

Statler Building BOSTON, MASS.

228 North LaSalle St. CHICAGO, ILL.

How Cool Is That Cooling Chamber . . .

Can You Really Tell?



TODAY'S electric refrigeration market is well educated in what to expect of a unit. Proof of the operating efficiency is imperative . . . prospects or users must know that at all times right temperatures are maintained.

How cold—can be answered emphatically by placing in the cooling chamber Bristol's Handy Recording Thermometer. This instrument, with the continuous 72-hour record, automatically records any variation in temperatures which occur, and writes the complete refrigeration story on the chart.

The Recording Thermometer furnished calibrated to use with chart having range of 30 to 70° F., has been found to be most suitable for refrigeration requirements. Instruments made up this way are carried in stock for prompt shipment. For further information, prices, see Bulletin No. 377.

Bristol's Handy Recording Thermometer for atmospheric temperature is 6 inches in diameter, uses 4-inch diameter chart. Case is aluminum alloy, white enamel finish.

THE BRISTOL COMPANY, WATERBURY, CONNECTICUT

Branch Offices: Boston, New York, Philadelphia, Birmingham, Pittsburgh, Akron

BRISTOL'S SINCE 1889

Instruments for Indicating Recording Controlling

Branch Offices: Chicago, Detroit, St. Louis, Denver, San Francisco, Los Angeles

EDISON WORKERS BUY 6298 REFRIGERATORS

New York, N. Y.—Employees of the New York Edison System purchased 6,298 electric refrigerators, and also supplied 8,846 prospects, not employed in the system during the recent President's Plan Campaign.

Four makes of electric refrigerators, Copeland, Frigidaire, General Electric and Kelvinator, were featured at special prices and terms.

Participating in the campaign were the Brooklyn Edison Co., Inc., the New York Edison Co., the United Electric Light & Power Co., the New York & Queens Electric Light & Power Co., and the Yonkers Electric Light & Power Co.

The records by companies follow:

	Sales to Employees	Leads from Employees
New York	1,846	3,016
Brooklyn	2,779	2,570
United	613	724
Queens	1,002	2,214
Yonkers	58	322
Total	6,298	8,846

For making the best showing during the campaign, a handsome silver cup was awarded by President Sloan to the leading department in each company of the system, as follows:

New York, Transmission and Distribution Department, Carroll H. Shaw, general superintendent. Representative on working committee, J. O. Sinkinson, departmental assistant.

Brooklyn, Secretary's Department, E. W. Kells, secretary of the company. Representative on working committee, A. H. Magill, assistant to the secretary.

United, Department of Sub-stations, E. W. Gorry, superintendent. Representative on working committee, A. D. Frech, assistant to the superintendent.

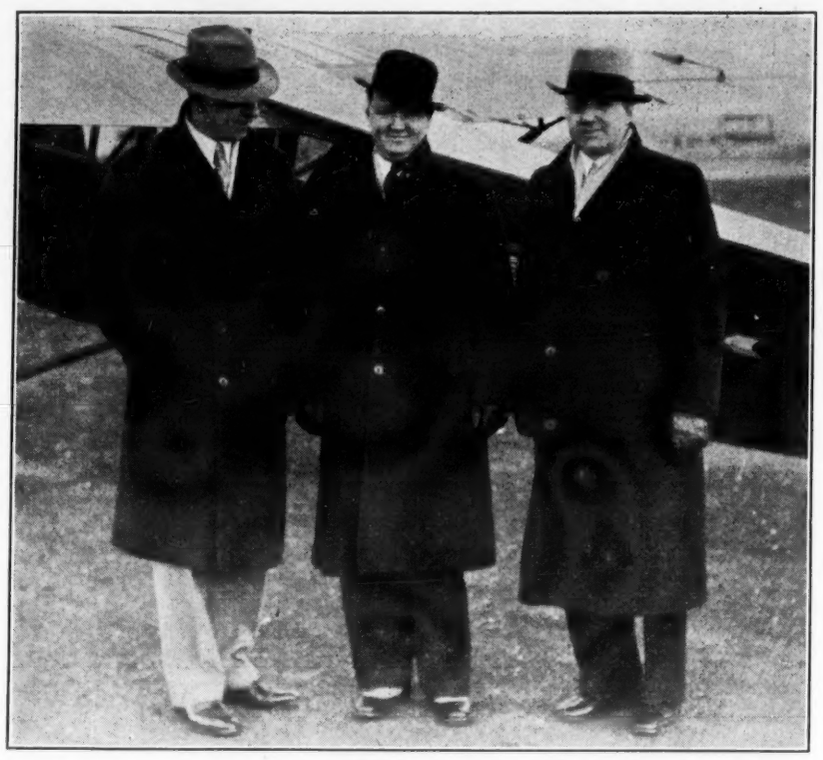
Queens, Sales Department, C. A. Barton, general sales manager. Representative on working committee, A. F. Rassiga, manager, Appliance Sales Bureau.

Yonkers, Contract and Inspection Department, J. P. Radcliff, Jr., general commercial manager. Representative on working committee, Miss Neva C. Atkinson, manager, Appliance Sales Bureau.

The entire activity, with President Sloan as honorary chairman, was under the direction of a committee composed of the heads of the commercial departments: Clarence L. Law, New York; Charles L. Harold, Brooklyn; Joseph F. Becker, United; Charles A. Barton, Queens; and Frederick W. Crone, Yonkers.

The administration of the plan within the system was handled through the Sub-Committee on Refrigeration Sales as follows: Chairman, L. J. Montgomery, Queens; Stephen Bennis, United; C. K. Nichols, New York; and E. A. Steinbuehler, Brooklyn.

Jersey Men Take to Air



HARRISON HOLDS MEETINGS FOR NEW UTILITY DEALER

Newark, N. J.—Shortly after the Jersey Central Power & Light Co. signed up to sell General Electric refrigerators, Phillip H. Harrison & Co., distributors, held meetings of sales divisions of the utility company here, Jan. 22 and 26.

To attend one of the meetings, C. R. Butcher, sales supervisor, and T. B. Moore, sales manager, flew over by plane from Asbury Park. In the photo here (left to right) Frank H. Driscoll, Harrison wholesale manager, was on hand to welcome Messrs. Butcher and Moore.

The Jersey Central Power & Light Co. has its home offices at Asbury Park and its territory includes parts of Morris, Union, Essex, Monmouth, Ocean and Passaic Counties.

B. A. Seiple is in charge of the commercial department.

ROYCRAFT CORP. TRANSFERS TO NEW LOCATION

Minneapolis, Minn.—The Roycraft Corp., Minnesota distributor for Majestic radios and refrigerators, is now located in its new two-story building at the intersection of Hannepin Ave. and Superior Blvd., one of the heaviest traffic centers of this city.

The new building has a large display room on the first floor in the forepart of the building. A large staircase leads from the center of the display floor to the general offices on the second floor front. The rear of the building and the basement are used for stock room, shipping and service departments.

WINS $40 PRIZE SELLING REFRIGERATORS

St. Joseph, Mo.—By selling 21 Majestic refrigerators between November 10 and December 22, Henry S. Nelson, star salesman of the St. Joseph Railroad, Light, Heat and Power Co., won $40 as the first prize in the sales contest.

COAST COMPANY BECOMES PARKER SALES AGENTS

Los Angeles.—The appointment of the Coast Refrigeration Co. as sales agents for metropolitan Los Angeles has been announced by the Parker Ice Machine Co.

The Coast Refrigeration Co. will specialize in the apartment house and commercial field, installing sulphur and methyl chloride systems. Offices have been moved from 1525 W. 7th St. to new quarters at 831 West Tenth St.

C. S. Harrison, formerly manager of the refrigeration department of Chanslor & Lyon Stores, Inc., has replaced R. E. Allen as manager. Mr. Harrison was associated with Servel and Frigidaire, prior to his connection with Chanslor & Lyon Stores, Inc.

Don Wood, sales manager of the company, was formerly manager of the apartment house division of the Parker Ice Machine Co.

SEATTLE OFFICE STARTS RECORD BREAKING

Seattle, Wash.—January sales exceeded all expectations of the Seattle office of the Electro-Kold Sales Corp. A. A. Wilson, manager, reports that the quota for the month had been exceeded by a large margin.

Electro-Kold now has over 16,000 units installed in Seattle.

COPELAND NAMES SALES ASSISTANT

Mt. Clemens, Mich.—A. L. Bogue has been named as assistant sales manager in charge of commercial sales of the Copeland Sales Co.

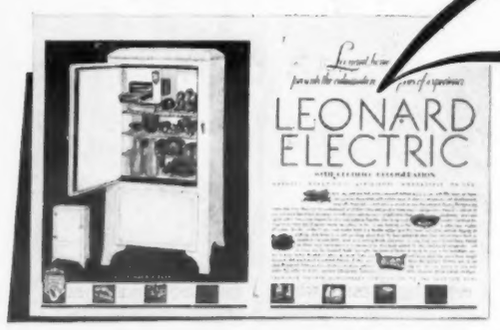
Mr. Bogue has had commercial sales promotion experience in the electric refrigeration field, and was recently connected with the Grenell Advertising Agency of Detroit.

TWO DISTRIBUTORS SIGN WITH NORGE CORP.

Detroit, Mich. — Announcement has been made of the appointment of two electric refrigerator distributors for the Norge Corporation, Detroit, a division of the Borg-Warner Corp. They are the Auto Equipment Co., Denver, and Reinhard Bros., Inc., Minneapolis.

February 26

4 color 2 Page spread in Saturday Evening Post, February 28 issue. (Out February 26)



is the BIG DAY for *Leonard Electric* dealers

ON Thursday, February 26, the smashing, full-color Saturday Evening Post announcement of the new Leonard Electric (shown in miniature above) formally introduces this marvelous new electric refrigerator to the public. Dealers nation-wide are completing their tie-in merchandising—to cash in on the largest advertising investment Leonard ever made.

There are more Leonard household refrigerators in use than those of any other make—2½ million. Leonard has been the leader in the refrigerator cabinet field for 18 years of its half-century history. Leonard is the potential leader of the whole refrigerator field.

Leonard has a distinctive new panel cabinet design, the first on the market, and two models covering 80% of the home market.

Never mind Leonard sales features like the Chillometer, defroster, 25% extra insulation: this new electric "has everything." Never mind market statistics: you know your market and what you can do with the right-priced job. We have a few distributor territories still open. But they are going fast. Need we say more? Don't write, telegraph: Leonard Refrigerator Company, 14260 Plymouth Road, Detroit, Michigan.

JOIN UP WITH LEONARD Electric

LEONARD'S 50th ANNIVERSARY

CONTRIBUTION TO THE AMERICAN HOME

Wirfs Corporation

DESIGNERS of refrigerator door gasket. An organization with a background of refrigerator manufacturing experience. Essentially gasket manufacturers, we are capable of solving all your gasket problems.

Wirfs PATENTED
AIRTITE" GASKET

is made in five standard sizes. For the manufacturer requiring a special type, we offer the services and experience of an organization devoted exclusively to door gasket manufacturing.

Let us work from your blueprints.

DEALERS in electric refrigeration have many occasions to use "AIRTITE" Gasket. Write for samples and prices.

WIRFS CORPORATION
135 S. 17th St. St. Louis, Mo.

Coming:

A special section for refrigeration parts manufacturers.

What determines the value of a sales franchise?

Before you accept the dealership for an electric refrigerator there are many things you should insist upon knowing—many things you should investigate.

But the one thing you should weigh above all others is *the value offered by the product you propose to sell.*

How is it made? How is it priced? How does it stand up in use?

The answers to these three questions almost determine the worth of the dealership. They tell you whether or not the product will be easy to sell and profitable to handle.

And when you investigate Frigidaire you will find a favorable answer to *all* these questions. For Frigidaire is a product of General Motors and, as such, shares in the benefits of General Motors engineering facilities, General Motors Research Laboratories, General Motors purchasing power, and General Motors efficient production methods.

If you care to have detailed information showing the many ways in which Frigidaire offers outstanding value, a letter will bring you some interesting facts.

Frigidaire Corporation, Subsidiary of General Motors Corporation, Dayton, Ohio

FRIGIDAIRE

A GENERAL MOTORS VALUE

GENERAL MOTORS PRODUCTS HAVE OUTSTANDING VALUE

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Two Weeks by

BUSINESS NEWS PUBLISHING CO.

550 Maccabees Building, Woodward Avenue and Putnam Street
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(*Refrigerated Food Section* only, $1.00 per year)
All Other Countries: $2.25 per year; two years for $4.00

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Editorial Aims of the News

To encourage the development of the art.
To promote ethical practices in the business.
To foster friendly relations throughout the industry.
To provide a clearing house for new methods and ideas.
To broadcast the technical, commercial and personal news of the field.

The Language of Food

MANY readers who have studied the growth curve of the electric refrigeration industry, as published in the January 14 issue of the NEWS, have been considerably impressed by the astonishingly rapid increase in sales volume during the last five years.

The decade ending in 1920 was a time for laying foundations, and sales records could not reasonably be expected. During the following five-year period, the few companies in the field were still struggling to obtain recognition as an industry, and were experiencing difficulties in keeping their heads above the troubled waters. By 1925 the sales curve was definitely on the upgrade, and in 1926 it was shooting skyward at a high rate of speed. Ninety-five per cent of all electric refrigeration sales have been made in the last five years.

Members of the industry are no doubt elated over the fact that they are being borne upward on the crest of an ever-increasing popular demand. On the other hand, they are keenly conscious of the fact that it will take strenuous efforts to keep their seats on the band wagon.

The first big job of the industry was one of education. An oblivious people had to be sold on the need for adequate refrigeration. It took a major operation to change the food preservation notions of housewives who had been buying flimsy ice boxes at cut-rate sales for a few dollars, and who had been wrapping ice in paper to keep it from melting so quickly. To persuade economical buyers to spend two or three hundred dollars for a new device of which they knew little or nothing was an educational task of the first magnitude.

Just as the first major task of the industry was educational, so is the second. Since the potential market is but 15% saturated, the good work of telling the American nation about the need for proper refrigeration must continue. In the coming period, however, the tone of the story may be somewhat different. No longer is it necessary to talk about one's machine. The consuming public is now apparently convinced that electric refrigerators will work.

Food preservation will become more and more the subject of the future sales talk. Successful salesmen will talk to the housewife in her own language. He will discuss meat and chops, milk and butter, eggs and orange juice—rather than refrigerants, stuffing boxes and evaporators. He will know the proper temperatures at which various foods should be kept, and he will discuss intelligently the protection of her family's health.

The job of educating the American public to the danger of food spoilage, and in correct methods of combatting bacteria, is one which properly belongs to the refrigeration industry. It is a task which will permit the industry to render a high type of public service. It is a task which demands the best efforts of every organization in the field.

In the field of commercial refrigeration, likewise, the salesman's story should boil down to food preservation. When he talks to the butcher and the grocer, it should not be in terms of coils or cubic feet capacity or horsepower, but in terms of food. His prospect can understand that story and, after all, it's food preservation that the salesman has to sell.

When the electric washing machine was first placed on the market, salesmen talked about gadgets and tubs. At last they learned to present the story of clean clothes. Early advertisements of vacuum cleaners were concerned almost solely with mechanical superiority, with volume and velocity, with suction and speed. Nowadays sanitation is the theme. For a long time automobile merchandising was burdened with transmissions, wheelbases and torque. Finally motor car salesmen learned to sell transportation and the joy of the outdoors.

This cycle of sales points seems to occur in the evolution of every mechanical specialty. And the day has come when electric refrigeration selling must undergo the same metamorphosis. Many indications point toward a still greater upward bound of the refrigeration sales curve. Progressive members of the industry will prepare to take advantage of these coming opportunities by learning the language of food.

GLEANINGS
FROM CURRENT PERIODICALS

"Now, any woman knows that installment buying is often a good thing, unless she overextends it. It is by installment buying that she may have her vacuum cleaner, her electric refrigerator, her washing machine—even a car and a piano.

"It is a form of enforced saving applied to purchase, with an advance delivery on the purchase. And it is safe and sound business, if kept in proper proportion to the budget."—Mary Roberts Rinehart, in *The Saturday Evening Post*, January 31.

Of the new apartments at 993 Fifth Avenue, the *New Yorker* says: "Kitchens are tiled to the ceiling, and floored with blue and white blocks. Vast Seeger refrigerators with Frigidaire innards are accessible both to the butler and the cook—peacemakers, as it were."

Referring to No. 320 East Seventy-second Street, a new co-operative apartment, the *New Yorker* states: "The pantries and kitchens are particularly pleasing, what with more windows than they need, and the nicest equipment—again including the Seeger-Frigidaire combination."

"The first windowless store has been opened in Washington, D. C. Its solid air-tight walls house a clothing store. Outside air is drawn into a basement chamber, cleansed by washing and filtering, raised or lowered to the desired humidity or temperature, then uniformly distributed throughout the building.

"Under these conditions it is found the salespeople and office force are more alert and do not tire as quickly as under 'natural' conditions. Also that the merchandise is kept much cleaner because the store is virtually dustproof.

"Modern lighting does away with the former difficulty of selling goods by artificial light, and thousands of square feet of valuable floor and wall space, formerly required for window space, have been converted into productive selling room. *Capper's Magazine*, February.

"Refrigeration today has no real controlling principle motivating it. We are undoubtedly going to see a development of at least three temperatures in the food store or retail outlet.

"In the home there will be at least two compartments and temperatures in the same refrigerator, to meet conditions of preservation and protection, in keeping with those maintained at the retail source of distribution."—*Ivan Nordham*, Sec'y, Quality Bakers of America, before the New England Assn. of Ice Cream Manufacturers, Jan. 14.

On Our Bookshelves

"REFRIGERATION MEMORANDA"
Editor: John Levey. Publisher: Nickerson & Collins Co., Chicago. Pages: 140. Price: $1.

THIS is a vest pocket reference book that will really fit into your vest pocket, being 2⅝ in. by 4⅞ in. Moreover, it will withstand considerable wear and tear on its flexible morocco cover.

It is just what it purports to be, namely, a collection of useful information about ice-making and refrigeration, gathered from engine-room practice. Its material is terse, and presented in the parlance of the practicing engineer.

The handbook begins with a complete topical alphabetical index of its contents. Then follows a few fundamental definitions of heat, refrigeration, sensible heat, latent heat, etc., and explanations of ordinary refrigeration systems.

Next the various elements of a refrigeration machine are described, and rules stated and illustrated by concrete arithmetic examples of their application. The principal industrial uses of refrigeration are explained here, and practical rules given for determining sizes of equipment which will suit various requirements.

Insulation, being one of the most expensive elements of a refrigeration system, is fully treated, in view of the size of the book. The properties of many insulants are given, and the factors entering into their selection explained.

The group of condensed tables and means of figuring what amount of power will be necessary to refrigerate any system should be particularly helpful to any practical refrigerating engineer, as will the pages on operating plants and tending the boiler rooms.

The volume concludes with a discussion of refrigerants, and presents a number of tables and miscellaneous data bearing on the operation of refrigerating systems.

All in all the little book contains a remarkable amount of information for its size. The tabes are presented in compact form, and the text reproduced in small but readable type.

The Expansion Valve

Stories of Interesting PEOPLE in the Refrigeration Industry

By GEORGE F. TAUBENECK

You can't keep a good man down. Every year when time rolls around to the point where another Servel sales conference is in order, Sam Vining invariably becomes temporarily incapacitated.

But in spite of the fondly cherished hopes of a few engineers around Evansville, nothing short of a possible asphyxiation or electrocution seems to be able to checkmate the virile Servel sales manager's running flow of stories.

Last year during the conference he had a tonsillitis. Year before that it was something else. Last week, just before the commercial conference, he submitted to the tender ministrations of a dentist.

The extraction of a tooth, however, had about as much effect on his good humor as an earthquake in China would have upon the rapture of a girl who has just been given her first diamond. Brand new yarns, extemporaneous sales arguments, and infectious enthusiasm spouted from him like water from a whale.

Vining was the target of a number of jokes, practical and impractical, as the result of his missing molar. But he was not alone. Paul Jones, the energetic young man who has been advertising the Servel Hermetic all over the land in the last few months, was the recipient of even more razzing.

Delighted delegates to the conference found big cardboard posters scattered around Evansville, pounced upon them gleefully, laid them before Jones, and demanded ringside seats. The posters read:

WRESTLING TONIGHT
Feature Bout:
PETE DMITRIOUS vs.
PAUL JONES

Just as a matter of protection, let us hasten to add that the heavy weight grappler is not a relative of the gentleman from Indiana by the same name.

Servel never holds a sales convention, chiefly because Vining doesn't believe conventions are worth their salt.

"We manage to get along without mob spirit and hullabaloo," he says. "When small groups meet, work can be done; but when crowds gang together, that's another story."

Thus it is that the various groups of the Servel sales organization meet for conferences at different times in the year, and that Evansville is never the scene of a mammoth refrigeration convention.

Several weeks ago the Valve was seeking a picture for a center top-column spot in the pink section devoted to refrigeration cabinets.

"Who," we asked, "is the patriarch of the commercial cabinet business?"

Came the answer: "E. E. McCray, of the McCray Refrigerator Co., has the longest service record in the business, so far as we know."

In answer to an urgent telephone call, the obliging Mr. Rehwinkel of the Kendallville organization furnished us with a picture of Mr. McCray.

It was just what we were seeking, and so the kindly face of E. E. McCray appeared on the first page of that pink section.

After seeing the picture, one would recognize him instantly. If anything, his face is even more that of the benign and wise philosopher than the picture would indicate.

We saw him first as he was walking through his plant. Every day he strolls through the factories that he has seen spring out of the ground in his home town during the past 40 years.

Those constitutional walks keep him in touch with what's happening in his plant, with the condition of tools and supplies, and—most important—with his men.

His employees are all familiar to him and with him. Many of them, likely as not, are his neighbors. Kendallville is a small town. Like all communities of its ilk, everyone knows everyone else and everyone else's cousins and grandparents. Few social institutions are so well-knit as the small town.

Mr. McCray has been a lifelong resident of Kendallville, and has been the town's leading citizen for so long that he is almost a legendary figure among the citizens thereof.

One needn't mention that labor troubles in the McCray organization are as rare as chorus girls who aren't hungry. When you've known and respected the owner all your life, when the organization is composed of your best friends, and when the boss comes around every day to see what you need and how you're getting along, discontent knocks in vain.

"We scarcely had a complaint before electric refrigeration came along," says Mr. McCray. "Since they've begun hooking up machines with our cabinets, however, trouble has developed.

"The men who have made the installations often haven't known how to estimate the job, and have failed to get the right machine for the right box. A great need has existed for widespread dissemination of information on proper installation.

"Another problem that electric refrigeration has brought up is the proper payment of agents. The man who sells your goods should be well paid, and a successful business can't be built unless he is.

"The most important work electric refrigeration manufacturers have accomplished is the education of the general public as to the necessity for refrigeration. When we started in the business, back in 1890, most people didn't even know what refrigeration was. Education was a slow process."

While we are mentioning patriarchs of the industry, it might be well to introduce John Lewis, vice president and general manager of the Gibson Refrigerator Co.

For 55 years Mr. Lewis has been engaged in the manufacture of refrigerators. He's still actively in the business.

That his mind is still young is proved by the fact that he is now busily at work on a brand new product, the Gibson electric refrigerator.

Any man who has been building ice refrigerators for 55 years might reasonably be expected to resist the coming of the new machines. Mr. Lewis, on the contrary, is enthusiastically learning new tricks.

Brain-children of highly original thinkers often impress one as being too simple to be true. Henry Ford's ideas, for instance, often seem so obvious that it's hard to question them.

"Why in thunder couldn't I have thought of that," one wonders upon seeing an invention or being introduced to an idea produced by men of this type.

The answer, of course, is that it takes an original thinker, one who isn't bound by the rules, to see the obvious. Others see only what they've been taught to see.

Men in the electric refrigeration industry have often expressed the same thought, "How simple it sounds," when listening to L. U. Larkin explain how he invented the Larkin coil, and how it works.

One night last week the Valve sat spellbound for three hours in the smoking compartment of a Pullman car while Mr. Larkin unfolded some of his other ideas. His notion of heaven would be unlimited time, unlimited facilities, and a laboratory.

Amazingly simple are his schemes for mechanical devices which will solve age-old problems, and fill age-old wants. Some of the wants have never been expressed, yet they're as fundamental as beds.

Almost anybody can understand his ideas, for it isn't a case of mathematical formulae and scientific principles with him. He merely sees that something needs to be done, or to be done better, and proceeds to do it in the simplest possible way.

It won't be long before our working days will be cut in half, he believes. In fact, he thinks the time is ripe right now, and can tell you how it can be done and why it would help alleviate present economic ills.

If it weren't for the fact that the Expansion Valve has already taken up its allotted space, we'd tell you just how he would bring about this remarkable change. Perhaps it would be better, anyway, if we let him tell his own story in his own way.

WHAT OUR READERS ARE THINKING ABOUT

On the Substitution Of Name Plates

Gentlemen:

I am wondering if you are aware of the fact that men generally over the country, after installing a ——— machine in a refrigerator, are removing the name plates of the maker of the refrigerator, destroying the number and serial number and replacing it with a ——— plate.

This is creating a lot of disturbance amongst the makers. Confidentially, the machine men came up for a panning at the national meeting at the Palmer House on February 3rd on this subject. We have had the same experience, and it makes all kinds of trouble.

These refrigerators pass into various hands and sometimes the serial number is the only reliable source of information that we can get from them in order to fill their orders for broken hinges, fasteners, etc., and it makes no end of trouble to us.

I think there is a lot of antagonism against ——— and other machine men that comes from their practices in the field. No manufacturer would object to their putting their name on the front of the refrigerator, but to cover up the manufacturer's name and serial number is a serious objection.

Yours respectfully,
A MANUFACTURER.

Georgia Tax Decision

Atlanta, Ga., Jan. 26, 1931.

Gentlemen:

A copy of the Supreme Court decision that electric refrigerators are ice machines does not seem to be available.

The law reads: "Upon every manufacturer of, or wholesale or retail dealer in, or agent for the sale of any adding or calculating machine, check protector and domestic ice machines retailing for more than ten dollars, $25 for each place of business in counties of 20,000 population or under; $50 in counties of a population of over 20,000 and under 50,000, and $100 in counties of over 50,000 for each place of business in this state."

The tax is due and payable on the first of each calendar year.

Thus the tax is on occupation alone, levied upon the dealer according to the population of the place in which he does business, and cannot be figured in terms of electric refrigerators sold.

Sincerely yours,
J. H. REED.

Carrier Predicts

Newark, N. J.

Gentlemen:

In reference to your questions of January 7th, I have not been able to give these any attention previously owing to pressure of other business.

By electric refrigeration I suppose you mean household refrigeration through electric drive. I am not in touch with the field and would not hazard a guess as to what the outlook is. I imagine it will continue to expand at a rather uniform but not accelerated rate. I do not think the progress in the household industry will grow as rapidly in the next five years as in the past five. It may level off rather than accelerate.

It is hard to say what the one most important development is. It may be quick-freezing. It may be the development of the application of dry ice. It may be increased interest and development in air conditioning and cooling for comfort.

Making practicable air conditioning and cooling in the home should be the most important development of the next five years.

Yours very truly,
W. H. CARRIER.

Congratulations

Waterbury, Conn.

Gentlemen:

Representing our organization, I want to congratulate you on your exceptionally fine publication of January 14th, giving a complete index of the electric refrigeration industry.

The material contained in these three sections of this particular volume is exceptionally clear, concise and well-established.

We have found ELECTRIC REFRIGERATION NEWS always a very acceptable publication, and at all times the information contained in it has proven extremely reliable and thorough.

Again we want to congratulate you on your fine publication, and hoping that your success in the future may be well rewarded, I am

Cordially yours,
L. L. STACY.
Modern Home Utilities Co.

Hands Across the Sea

258, Gray's Inn Road,
London, W. C. 1.

Gentlemen:

You will doubtless be pleased to hear that we have found your paper interesting and helpful, and over here in England we look forward to receiving the fortnightly issue of your paper.

It is very informative and keeps us right up to date in the electric refrigeration world.

Yours very truly,
R. SEARLE,

Much in Demand

Gentlemen:

The office copies of your publication which are available in the various Westinghouse plants are so much in demand that I am unable to read them with the thoroughness which they deserve.

The up-to-the-minute news in your publication is of great value to me in that it keeps me posted on the latest developments in the engineering and commercial activities of the domestic refrigeration field.

Very truly yours,
R. J. WENSLEY.

Want Complete File

Washington, D. C.

Gentlemen:

As we know that your publication is the foremost publication of its kind in the electric refrigeration industry, we are anxious to obtain a complete file of your publications if the same is feasible. It is our idea to follow the progress in the art by way of your publication.

If you have complete copies of your publication for sale, we would appreciate your giving us an estimate of the cost of obtaining these copies from inception to the present time. If you do not have such a compilation for sale, we would appreciate you letting us know if you have copies of all of these publications on hand.

Thanking you for this information, we are,

Yours very truly,
Mason, Fenwick, Lawrence.

Coming:

A special section for refrigeration accessories manufacturers.

'I Want To See More News About:'

Kelvinator—Earl Rower, New Canaan, Conn.

General Electric refrigerators in the state of New Jersey—F. H. Driscoll, Newark, N. J.

Electrolux—although your paper is excellent.—H. L. Stearns, Indianapolis, Ind.

Majestic—H. A. Castellucci, New York.

Merchandising electric refrigeration. Domestic and commercial.—J. B. Deck, Norman, Okla.

New selling ideas and personal experiences of others that sell electric refrigeration.—W. H. Ericson, Chicago, Illinois.

What the ice industry is doing and what the outcome will be.—G. A. Wilson, Jr., Auburndale, Mass.

New refrigerator products.—Thos. J. Wilson & Son, New Athen, Ill.

Beverage coolers and the bottling industry.—L. C. Smith, Detroit, Mich.

(1) Large machines. (2) Air conditioning.—G. C. Meyer, York, Pa.

Water cooling.—The Distillata Co., Cleveland, Ohio.

The owners' side of the problem of refrigeration—what they expect and what they want. In spite of the rapid growth of the industry and the camouflage that has surrounded it, the buying public doesn't seem to know just what they are buying or what it is all about.—G. D. McLaughlin, Dayton, Ohio.

Better dealer discounts, and more liberal factory co-operation on replacement of defects.—Sunflower Elec. Co., Chanute, Kans.

O. K. as is.—Wm. J. Menseck, 564 Larchwood Ave., Bywood, Pa.

Paper is very satisfactory.—H. W. Persbacker, Scranton, Pa.

Advertising ideas, window trimming ideas, ideas on merchandising in general.—Laube Elec. Corp., Rochester, N. Y.

Service work and installation of Kelvinator commercial jobs.—R. P. Saye, Athens, Ga.

Installations on commercial Kelvinator equipment.—C. E. Crouse, Phillipsburg, N. J.

Design of compressors and cooling units.—W. F. Lindner, Dayton, Ohio.

Multiple systems; also commercial systems using high side floats.—D. C. Murray, Chicago, Ill.

Technical articles.—C. L. Dugan, Wilkinsburg, Pa.

Frigidaire installations and factory.—Cross & Edge, Tyler, Texas.

Commercial engineering applications and service.—A. M. Fenwick, Fostoria, Ohio.

Source of compressor parts and engineering data.—W. S. Wake, Galesburg, Illinois.

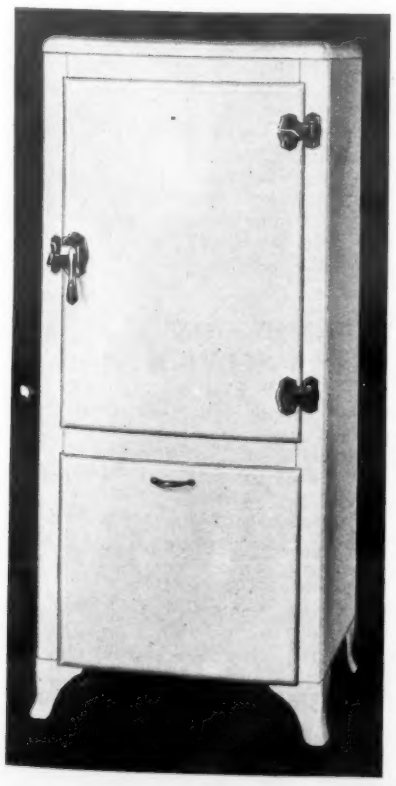
Service operations and places to buy parts.—L. W. Jackson, 4821 Lake Park Ave., Chicago, Ill.

Water and milk cooling calculation. "Nevertheless, I read 'em all."—J. W. Granfors, San Antonio, Texas.

Servicemen's trouble experiences and methods used to correct them.—L. E. Bowles, Randolph, Kansas.

Service replacements and "sharp-freeze."—Strohl Refrigerator Service, Los Angeles, Calif.

THE NEW
STARR FREEZE
Electric Refrigerators for 1931



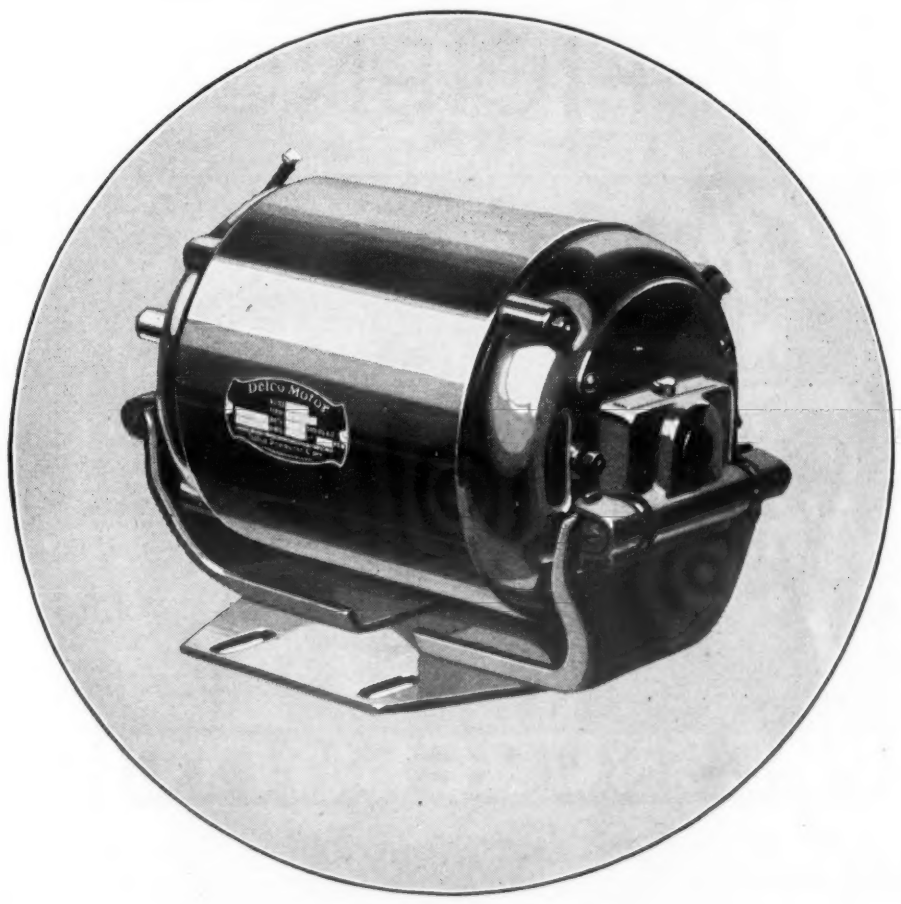
of
Outstanding Beauty
Utmost Reliability
Incomparable Value

One of the New Styles
The Wabash
MODEL W
Three tray cooling unit.
Approx. 5 cu. ft. gross
Interior Porcelain.
Exterior Enamel.

Our Liberal Dealer Proposition
is an unusual story of profit for you. Write at once for it.

THE STARR COMPANY
RICHMOND, INDIANA

A REFRIGERATOR MOTOR IS DIFFERENT



Today, Delco ranks as the world's largest maker of refrigerator motors. Three fundamental factors have placed Delco in this position of leadership. Delco design is expressly fitted to domestic refrigerator requirements. Delco production has been geared to the needs of the industry—deliveries are on time. And Delco has provided for nation-wide service on its product, through the comprehensive facilities of United Motors Service. If you want to use a motor that has proved successful in more than a million refrigerator units, call in a Delco engineer. He will bring you every advantage of Delco's broad refrigerator experience.

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

BOHN PIONEERED THE PORCELAIN REFRIGERATOR

This is but one of the many advances pioneered by the BOHN engineers during thirty-five years of quality manufacturing.

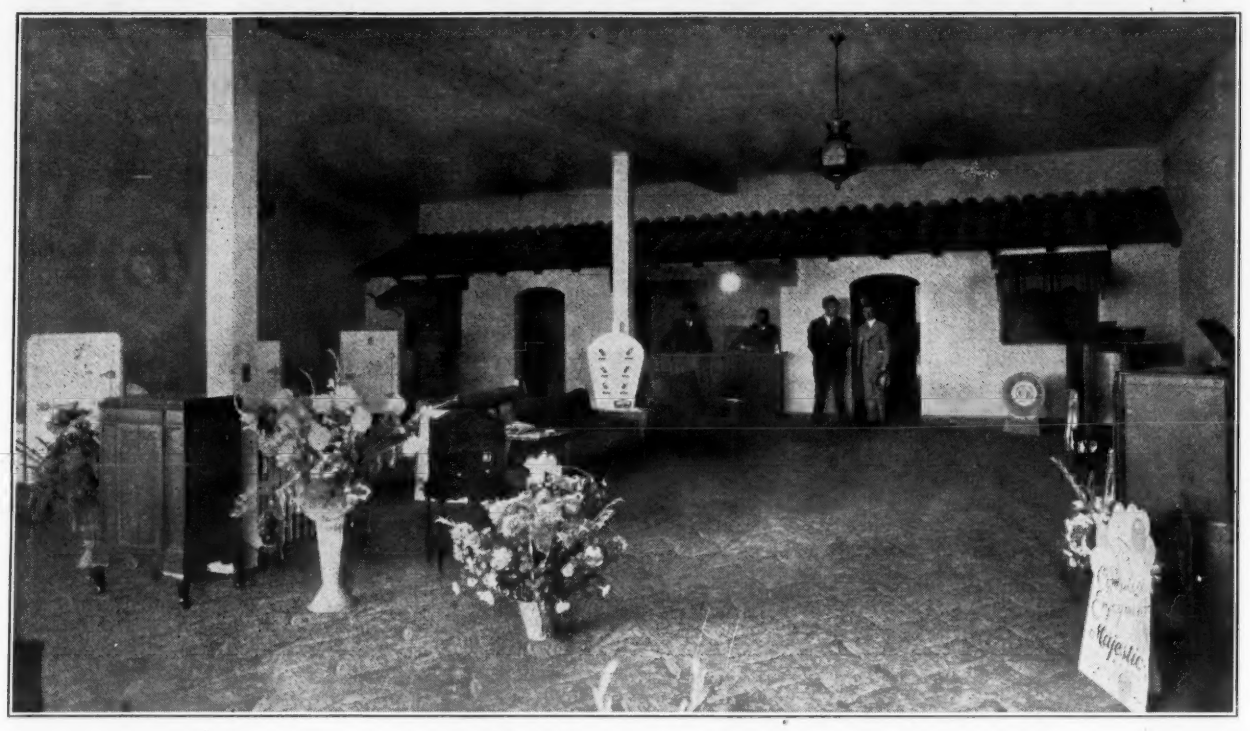
BOHN has built thousands of cabinets for manufacturers of refrigerating machines who desired the utmost in beautiful and scientific construction to best set forth their mechanism.

BOHN would be glad to figure with those organizations who recognize that a quality all-porcelain refrigerator is a distinct merchandising asset.

BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

Write for details of low prices now prevailing on stock models.

Majestic Has New Home in Phoenix



Phoenix, Ariz.—The new home of the Majestic electric refrigerator is attracting much favorable attention here. It is located directly across the street from the city's main post office. Two large display windows, at the floor level, makes refrigeration a constant feature of this busy shopping center, while the attractive interior is designed to meet modern merchandising methods. Ample room, attractive furnishings, and trained and attentive service, all contribute to the sales efficiency of the new plant.

W. C. Lefebvre is manager. "The guarantee regarding upkeep that we are making to the customer is going to be the big factor in building our sales volume," says Mr. Lefebvre, "and a year from now, results will show whether or not that has meant a profit volume as well."

Excessive freight is one of the things that the Arizona dealer has to contend with and high mean temperatures over a long summer period constitute another.

"We are putting the price up where it can include freight and service charges of the maximum amounts and still leave us a profit," says Mr. Lefebvre. "That means that when it comes to the point of having the customer sign his name to a check or a contract, the worst is over with. He knows that he has paid for delivery of a definite long term service and he feels easy under the company's guarantee."

Nine salesmen and four service experts are included in the organization. It is the purpose of the company to cover the entire **Salt River Valley**, co-operating with **the dealers in six** adjoining towns and making Phoenix general headquarters for Majestic products in the state of **Arizona.**

REFRIGERATED AUTO PREDICTED

Detroit, Mich. — Automobiles whose windows cannot be opened, but which are ventilated by refrigerating systems in the summer, and hot water or electrical heaters in cold weather, were predicted by H. Ledyard Towle of the Campbell-Ewald company in a meeting of the Society of Automotive Engineers, held in connection with the Detroit Auto Show held last week.

OVALLE EXTENDS BRANCH OPERATION TO YORK AREA

York, Pa.—N. K. Ovalle, Inc., distributor of General Electric refrigerators in central Pennsylvania, has just extended its branch operations with the opening of a new branch office and display room here.

The new display room is in keeping with the "Ideal Branch Store" standard adopted by N. K. Ovalle, Inc. It has ample illuminated display space for a maximum showing of both domestic and commercial models. It also has a large room for delivery and service, with a garage and loading platform adjoining. An elevator at the loading platform makes accessible the large basement with capacity for a large supply of machines.

A large mezzanine balcony, above the delivery room, is completely equipped as an institute for training salesmen, and for regular morning meetings.

Two three-faced display windows for store identification are augmented by a forty-foot painted sign on the wall of the building, facing uptown traffic.

FRIGIDAIRE MAKES CHANGE IN CLEVELAND TERRITORY

Cleveland, Ohio—The Frigidaire Corp., Dayton, Ohio, recently took over **Wm. F. Gray, Inc., distributors of Frigidaire in Cleveland and vicinity.** The new company is known as the Frigidaire Sales Corp. and is now being operated on the zone plan, handling Frigidaire sales in the Cleveland zone.

R. D. Russell, who was general sales manager, is now assistant zone manager. The offices and store remain at 1371 Euclid Avenue.

Bill Humphrey, who is with the new organization, recently sold six Frigidaires in one day.

NEW YORK A.S.R.E. SECTION SELECTS CROSBY FIELD

New York City.—Crosby Field of the Flakeice Corp. was elected president of the local section of the American Society of Refrigerating Engineers at a dinner meeting held at the Hotel Governor Clinton, Jan. 21.

Other officers for this section are: Ira E. McFarland of the Jamison Cold Storage Door Co., vice-president; L. H. Roller of the Brunswick-Kroeschell Co., vice-president; E. C. Soares of the R. B. Engineering Corp., secretary; and L. A. Coons of the Welsbach Co., treasurer.

DOUGLAS SHIFTED TO FOREIGN FIELD

Sacramento, Calif.—J. C. Douglas, manager of the local office of the Bennett Co. at 1212 K Street, for two months past, has just been promoted to a new position as agent of the General Electric International in the entire South American field.

Douglas is now in New York receiving his final orders. He will return to Sacramento in February prior to sailing for the southern continent.

The newly-appointed Sacramento manager is Roy B. Culp, formerly supervisor of the General Electric office in San Jose.

RENNIE GOES EAST FOR KELVINATOR

Detroit, Mich.—The Kelvinator Sales Corp. announces the appointment of W. L. Rennie as sales representative of the Ice Cream Cabinet Division in the New England territtory.

Mr. Rennie's headquarters will be in Boston, Mass., where he will work in co-operation with Edward R. Legg, eastern sales manager.

Mr. Rennie was formerly connected with the Kelvinator Collection Department at the main office in Detroit.

FORMER FRIGIDAIRE MAN FORMS COMPANY

Madison, Wis.—The Madison Radio and Refrigerator Co. has been formed here by F. C. Nordgren and M. G. Hamelin, who was formerly with Frigidaire as supervisor for the State of Wisconsin.

Mr. Hamelin will supervise the sales and service of Majestic refrigerators.

GREATER OPERATING EFFICIENCY

THE operation of mechanical refrigeration equipment is made more efficient, more positive, more economical, by the use of TIME-O-STAT'S No. 70 PRESSURESWITCH.

Compact, of pleasing design and easily installed, this Pressureswitch automatically shuts down the compressor when the pressure becomes excessive or it can be used as a low-pressure control to regulate temperature by maintaining pressure between definite high and low limits.

Furnished in many pressure ranges.

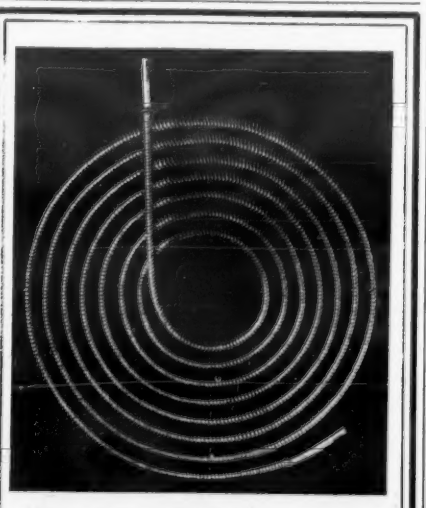
Equipped with a TIME-O-STAT Mercury Switch of high capacity the Pressureswitch will handle heavy loads direct. Write for complete information.

BRANCH OFFICES
NEW YORK
BOSTON
CHICAGO
EXPORT DEPARTMENT
NEW YORK

TIME-O-STAT CONTROLS COMPANY
ELKHART, INDIANA

EXCLUSIVE DISTRIBUTORS IN ALL PRINCIPAL CITIES OF THE UNITED STATES.
CANADIAN DISTRIBUTORS TORONTO AND MONTREAL.

Manufacturers of Automatic Controls for Oil Burners, Gas Burners, Coal Burners, Electrical Refrigerators, Furnace Fans, Mechanical Stokers, Industrial Ovens, Ice Machines, Unit Heaters, also of Sign Flashers, Mercury Switches, Electric Heaters, Corrugated Metal Bellows



Specify
ROME-TURNEY CONDENSERS

Made of heavy gauge deoxidized seamless copper tube. One-piece construction. High efficiency. Designs for all requirements and conditions.

Rome-Turney Radiator Co.
ROME, N. Y.

Intensive Campaigning Increases Sales Of Refrigeration in Mexico City

Mexico City, Mex.—The sale of 210 domestic seven cu. ft. Frigidaire cabinets in Mexico City during the first eight months of 1930 is the record established by the Mexican Autorefrigeration Corp., which specializes in the retailing of Frigidaire machines in this territory. The 210 machines represented an investment of about 250,000 gold pesos (approximately $125,000, U. S.) on the part of Mexico City residents, according to J. B. Lewels, sales manager of the corporation. The average retail cost of each machine was 1,000 gold pesos. Unlike many other large retailing units in Mexico, the Frigidaire representative quotes prices only in Mexican gold. It is the general practice here to vend for silver.

About 30 per cent of these machines were cash sales. The others were sold on installment payments. It is the policy to extend credit for not longer than one year from the date of delivery, and the officials declare that they do not consider it practicable to have installments dragging out for longer than twelve months.

The sale of the 210 machines represents the corporation's first phase of intensive campaigning. Up to the early days of 1930 the store which the concern maintains in Mexico City and its branch establishments in the larger cities of the Republic, depended for business on the appeal of window displays and similar means of contact. Early last year, however, there was a radical change of sales policy, especially in Mexico City. Fourteen salesmen, all Mexicans, were put to work. Each man was assigned a territory consisting of 14 blocks in all important residential districts. Each salesman worked on a "cold canvass" basis. This sales plan developed several interesting revelations, chief of which was that Mexicans are losing their antipathy toward strangers who call upon them in their homes and seek to sell things.

Mr. Lewels believes that all-Mexican sales crews are better for the national capital territory than are teams which consist largely of foreigners. Mexicans have patience enough not to take "no" as a definite answer; they do not mind turning up again next morning at places where they have been told that no interest whatsoever exists for what they are selling. Native salesmen think nothing of making as many as a dozen calls on one prospect. In this way, and without the support of newspaper advertising, they are able to do a considerable amount of business. The corporation used American and other foreign salesmen for a time, but found that these men preferred the "one-call" system.

The eight months' intensive sales campaign demonstrated, says Mr. Lewels, that Mexicans are good electric refrigeration prospects. Of the sales closed during the period, 95 per cent were to Mexicans. The corporation employs an instructress, Señora Beatriz de la Torre, who calls upon homes in which a Frigidaire has been installed, advising the lady of the house as to the making of delicacies and new wrinkles in cookery and refrigeration. Señora de la Torre has found several good prospects and is fast becoming a saleswoman.

J. M. Hildebrand, efficiency expert for Frigidaire, is visiting the branches of the Mexican Autorefrigeration Corp. He will spend two months in this country.

KELVINATOR - SPRINGFIELD CALLS DEALER SESSION

Springfield, Mass.—A joint sales meeting and banquet was recently conducted by Kelvinator-Raff Corp. of this city and the Frederick Raff Co. of Hartford, Conn., at Hotel Kimball. It was attended by 90 dealers and salesmen of western Massachusetts and northern Connecticut.

Trafton Mason, manager of the Springfield concern, presided. Speakers at the sales meeting included Alvin Smith, field sales representative of the Kelvinator Sales Corp.; C. V. DiPietro, sales manager of the Liquid Cooler Corp.; C. J. Deitz of the Seeger Refrigerator Co.; G. J. Malone, district manager of the Kelvinator Sales Corp.; R. O. Washburn, district manager of the Esco Cabinet Co., and S. A. Kelsey, sales promotion manager, and Albert Smith, of Kelvinator Sales Corp. Banquet speakers included Frederick Raff and N. B. Francis, president and treasurer, respectively, of the Kelvinator-Raff Corp.; Mr. Kelsey, Mr. Malone and H. C. Trask of the Simplex Oil Heating Corp. Mr. Mason was master of ceremonies.

DEALERS IN DES MOINES TAKE ON REFRIGERATION

Des Moines, Iowa.—The H. E. Sorenson Co., wholesale distribution firm, has taken wholesale distribution rights in 42 counties for Kelvinator.

F. B. Fink of Des Moines has been named head of the refrigeration department. The Kelvinator line was formerly handled by the Westinghouse Supply Co., Inc.

Davidson's Furniture Co. has added Majestic refrigerators to the regular line of merchandise.

The Anderson Furniture Co. announces the appointment of Ralph Whitlock, formerly of Cedar Rapids, Ia., as manager of its electric refrigerator department.

Appointment of the A. A. Schneiderhahn Co. as Servel distributor for all of Iowa, has been announced by President A. A. Schneiderhahn.

Roy S. Dunn, formerly promotion manager of the Thomas Edison Co., Orange, N. J., has been appointed head of the Schneiderhan refrigeration department.

In addition to Iowa, the new distributor will have several counties in Minnesota, Nebraska and South Dakota.

The Heib Radio and Supply Co., Majestic radio distributor, has taken over the local distributing franchise for the Majestic refrigerator.

Office and display rooms are maintained at 11th and Locust streets.

BOSTON ENGINEERS HEAR ARCHITECT'S SIDE

Boston, Mass.—The architect's viewpoint of refrigeration was presented to the local section of the American Society of Refrigerating Engineers, meeting at the Square and Compass Club, Jan. 22, by F. S. Wilcox, who spoke on "What Architects Want of Refrigerating Engineers."

Professor Charles W. Berry of Cambridge, Mass., addressed the gathering on "Liquefaction of Gases."

Bennett Promoted To Manager

Minneapolis, Minn.—E. P. Bennett has been appointed manager of the Refrigeration Division of the Minneapolis Gas Light Co., according to an announcement issued by E. J. Boyer, sales manager.

Mr. Bennett joined the Minneapolis Gas Light Co. Refrigeration Department in June, 1929.

He is a graduate electrical engineer, having followed electrical construction

E. P. Bennett

and sales engineering work from 1915 to 1923 with the Frank L. Holby Engineering Co. of New York as district manager. From 1923 until his connection with the Minneapolis Gas Light Co. he managed his own firm of electrical contracting and construction work.

COMMERCIAL INVESTMENT TRUST REPORTS PROFITS

New York, N. Y.—With the single exception of the banner year 1929, gross business and earnings of the Commercial Investment Trust Corporation, for the twelve months ended Dec. 31, 1930, were the largest in the history

Net volume of bills and accounts purchased during the year totaled $392,044,170, compared with $489,544,018 in 1929 and $282,163,896 in 1928. Consolidated net profits, available for dividends, amounted to $8,318,793, compared with $9,132,610 for the year 1929 and $5,278,262 for 1928.

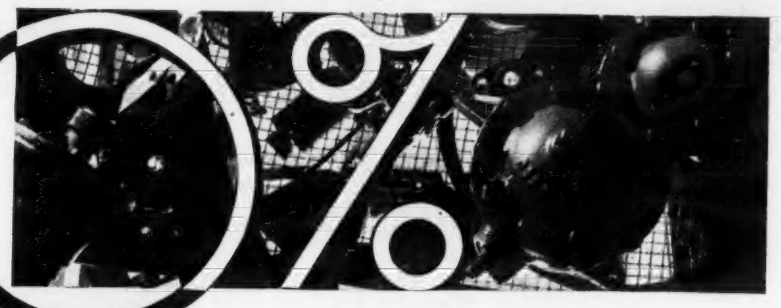
President Henry Ittleson, in his report to stockholders, said, "Installment financing has successfully met the test of the recent business depression."

NEW DEALERS NAMED IN SPRINGFIELD AREA

Springfield, Mass.—Electric Device Co., under the direction of D. G. Clark, has been appointed retail dealer for Westinghouse refrigerators in Springfield and adjacent territory. Salesroom and offices are at 119 Dwight St.

Tarbell-Watters Co., Inc., 144 Chestnut St., has taken the local dealership for the Servel line.

More than 80%



OF PAST SERVICE CALLS

can be traced to parts that Servel engineers have eliminated

HERE's an electric refrigerator that requires no expansion valves, no float valves—no fans, belts, pulleys or chains. There are no fuses, no stuffing box seals—not even the need for future oiling.

Every refrigerator dealer in the country realizes what these statements mean. All the commonest causes of trouble are gone forever.

The highly simplified Servel refrigerating unit is hermetically sealed under 20,000 lbs. pressure—to eliminate permanently all kitchen repairs, intricate adjustments and replacement of parts.

To your customers this means that they can enjoy the tremendous convenience of electric refrigeration without the bother and expense of old-fashioned Service.

To you it means protection for your profits. You serve your customers entirely as a merchant—without any need to maintain a costly repair shop. You can accurately figure your net profit when you close a sale—instead of having the gross profit eaten away by the heavy overhead charges that have always handicapped dealers in electric refrigeration.

Write for a full description of the new Servel Hermetic with complete details of the attractive Dealer Plan that insures more profitable business for you.

SERVEL SALES, INC.
EVANSVILLE, INDIANA

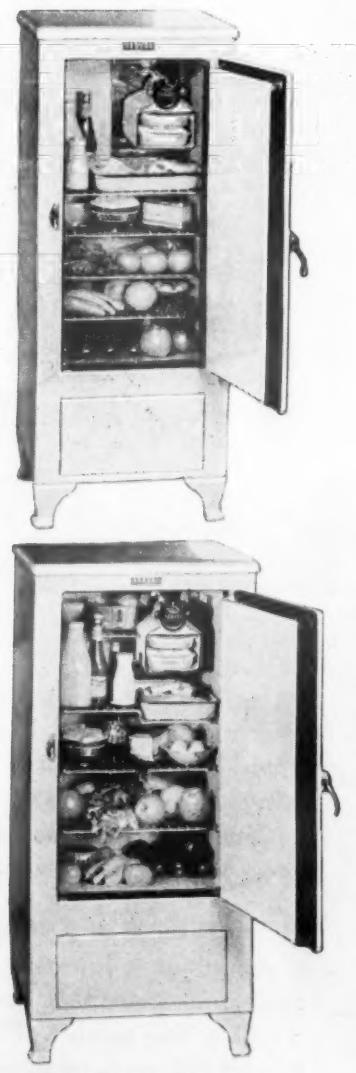
THE SERVEL GUARANTEE
protects dealer and customer alike . . .

The Servel factory guarantee during its period not only provides the usual protection against defective parts but freedom from the bother and expense of repairs for any reason other than abuse.

If repairs should be necessary during this period you simply replace the unit (an easy one-man job requiring no tools or equipment except a screw driver) and return it to Evansville. We pay the cost of the repairs.

SERVEL
HERMETIC
MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATORS

Watch the Feb. 21st issue of The Saturday Evening Post for the next full-color page featuring the Servel Hermetic



THREE MODELS
UNDER $200
F. O. B. FACTORY

Simplified Refrigeration

FRIGIDAIRE SETS BIG ADVERTISING BUDGET

Dayton, Ohio—Frigidaire Corp. this year will spend more than $7,000,000 for advertising and sales promotion.

Leading off its national advertising schedule will be a two-page advertisement scheduled to appear in the Feb. 14 issue of *Collier's*. This advertisement, which will be repeated in the Feb. 21 issue of the *Saturday Evening Post*, is designed to tie in with current General Motors advertising.

In its 1931 program Frigidaire will use national magazines, trade papers, newspapers, window display, direct mail and posters.

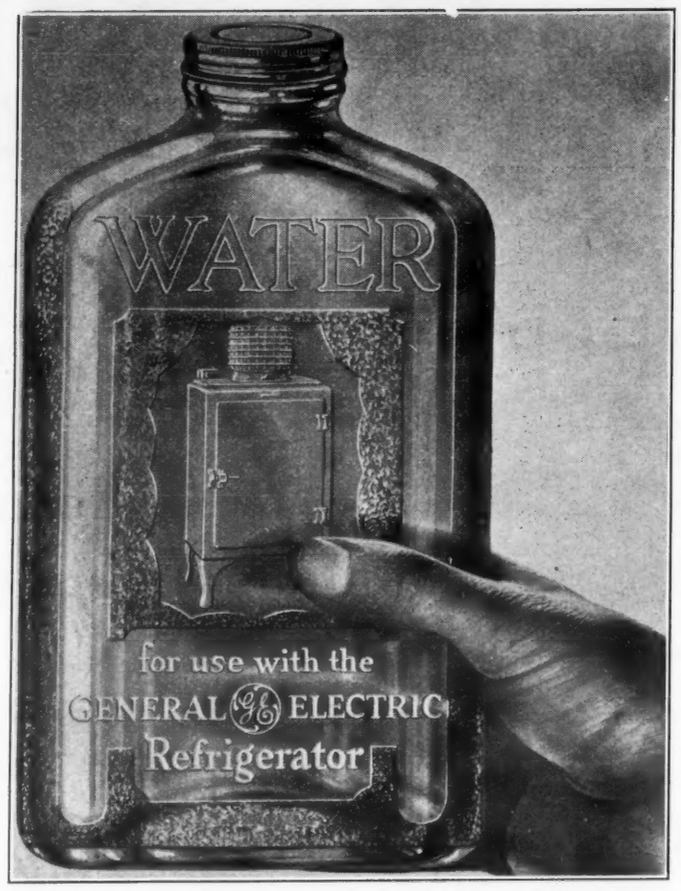
SALESMEN DISTRIBUTE WATER BOTTLES DAILY

Cleveland, Ohio.—Attractive water bottles are being used by the Refrigeration Department of the General Electric Company in order to renew contacts with users of G. E. refrigerators, and by so doing to obtain the names of new prospects. The distribution plan provides that each salesman shall receive one bottle each morning with a card bearing the name of a user, and that the bottle must be handed to the user before nine o'clock.

"See a user by nine and start the day fine" is the slogan that has been adopted as expressive of the idea behind the plan. The salesman begins his day by presenting the water bottle to the user, who in return suggests the names of prospects for electric refrigerators.

The water bottle, as can be seen in the adjoining column, is artistically decorated.

Salesmen Trade Water Bottles for Names of Prospects



General Electric refrigerator salesmen are using water bottles as a means for obtaining the names of prospects. To start the day off, each salesman makes one call and presents the user with this gift.

January Refrigeration Advertising

A STUDY of the business and home magazines in the Detroit Public Library showed the following electric refrigerator advertisements appeared in January issues:

Buildings and Building Management
- Frigidaire, one-quarter page
- General Electric, full page

Business Week
- Kelvinator, full page

Fortune
- General Electric, full page in four colors

Good Housekeeping
- Kelvinator, full page in four colors

House and Gardens
- Kelvinator, full page in four colors

Ladies Home Journal
- Kelvinator, full page in four colors

Saturday Evening Post
- Electrolux, full page in four colors
- General Electric, full page in four colors
- Kelvinator, two-page spread in four colors
- Servel, full page in four colors

ROY NELSON TAKES NEW POSITION WITH FEDDERS

Buffalo, N. Y.—Roy G. Nelson has been appointed quality manager of the electric refrigeration division of the Fedders Manufacturing Co., Inc., according to W. D. Keefe, sales manager of the Fedders refrigeration division.

As quality manager it will be Mr. Nelson's task to see that finished Fedders refrigeration products meet certain predetermined standards.

Before joining the Fedders organization, Mr. Nelson worked for the Kelvinator Corp., was chief engineer for the Norge Corp., and held the same position with Rice Products. Before his appointment as quality manager, he was assistant chief engineer of the Fedders refrigeration division.

KEISER TRANSFERRED TO SHREVEPORT AREA

Shreveport, La.—R. W. Keiser, formerly with the A. G. Riddick, General Electric distributor, has been appointed manager of the Shreveport territory for this organization. Mr. Keiser was with the Riddick organization in Jackson fourteen months before being transferred to Shreveport. He succeeded J. C. Griffith, who was transferred to the Jackson division, after having supervision in Shreveport for about two years.

ELECTROLUX MEN VISIT SOUTHERN OUTLETS

Birmingham, Ala.—Three Electrolux officials, who visited distributors and dealers in this territory recently, were George L. Roach, sales manager, W. A. Rorison, of the sales promotion department, and A. W. Grossman, zone supervisor in charge of the South. Several district meetings were conducted by the trio.

The T. J. Neal Co., Inc., Jackson, Miss., is now handling Electrolux at 508 East Capital Street.

CRUSEY WITH KELVINATOR IN FLINT

Flint, Mich.—C. J. Crusey, formerly factory representative for Frigidaire in the territory north of here, has opened his own business at 518 Harrison St., where Kelvinators are now on display. Mr. Crusey has appointed four experienced refrigerator salesmen in the local field.

G. E. TO SPEND LARGE SUM ON ADVERTISING

Chicago, Ill.—Advertising of the General Electric refrigerator during 1931, together with the sales promotion budget, will entail a combined expenditure of $3,500,000, half a million dollars more than was spent for this same purpose last year, it was announced by W. J. Daily, sales promotion manager, in a talk recently before the Advertising Council of the Chicago Association of Commerce. During the past four years the combined outlay for sales promotion and advertising has totalled $15,500,000, Mr Daily said.

"The larger portion of the 1931 appropriation for advertising will be spent with newspapers in all parts of the country," Mr. Daily stated.

"National magazines will continue to form the background of our advertising effort, while 1931 will call for increased activity in direct mail campaigns, outdoor advertising, window displays, radio broadcasts, sales contests and miscellaneous promotion. Thirty-one magazines, having a total circulation of approximately 25,000,000, will be used to carry the message of General Electric refrigerators.

"Radio broadcasts in the interests of General Electric refrigerators will continue over a nation-wide hook-up.

"Our year-around direct mail list last year was increased from 300,000 names to 900,000 in six months' time, and in 1931 the year-around campaign will continue. In addition to other special direct mail campaigns, there will be rural campaigns and programs for the domestic, apartment house and commercial markets.

"For an example take the activities of the sales promotion stock room for just one month. In our stock room in Cleveland there was handled 4,340,782 pieces, of which 3,253,619 pieces were imprinted; 5,901 express packages were moved, a total of 99 tons; 21 tons of freight were moved and parcel post packages handled totalled 888.

"One of the important activities of sales promotion last year, the General Electric refrigerator sales correspondence course, will be continued this year. In 1930, the total number of salesmen who graduated from this school approximated 2,400.

"A large amount of effort will be expended this year on what we style 'door openers.' These are glass water bottles, glass rolling pins, recipe books, playing cards, bridge score pads, 'left-overs' booklets, economy charts and miniature refrigerator salt and pepper shakers.

"This year we will have three publications: the Silent Hostess, with a circulation of around 500,000; On The Top, a magazine for salesmen and distributors with a circulation of 25,000, and the Silent Hostess Pictorial, the first issue of which will appear in February."

ENDRESS TAKES CHARGE OF DAYTON OUTLET

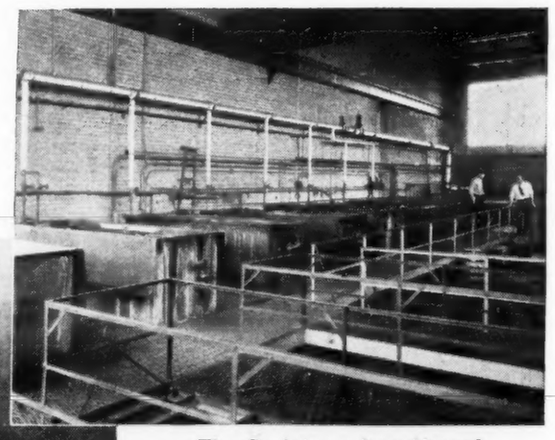
Dayton, Ohio—Otto C. Endress, for the past eight years engaged in Frigidaire selling work, has been appointed manager of the Dayton retail store of the corporation, according to announcement by H. H. Kennedy, regional manager of Frigidaire Corp. Mr. Endress succeeds E. C. Hill, who has been transferred to Cleveland.

Starting in May, 1923, with the sales organization of G. F. Schonek, Inc., Minneapolis, Mr. Endress sold the first Frigidaire to be installed in the Twin Cities. He remained there for four years in the position of salesman, and later as supervisor. In 1925 his feat of selling $25,000 worth of Frigidaires won him membership in the national B. T. U. Club, composed of outstanding Frigidaire salesmen of the country.

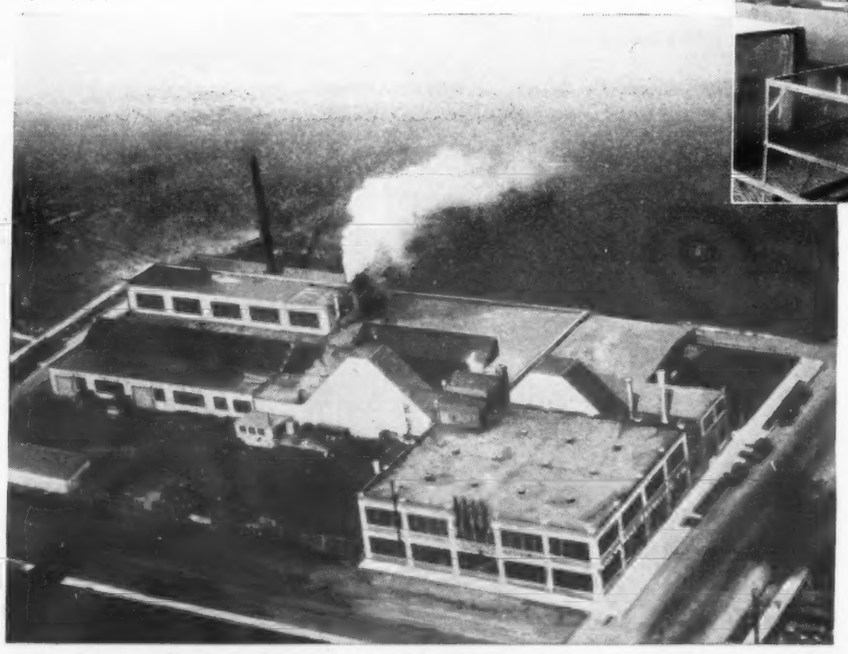
In the fall of 1926 he was brought to Dayton as zone sales manager, and since that time has been representing the factory in the various districts of Pittsburgh, Cleveland, Buffalo, Rochester, Columbus, Toledo, Flint, Grand Rapids and Louisville. The Dayton retail store handles all Frigidaire sales in the city of Dayton and vicinity.

Protecting Enamel Finish on Steel Refrigerators

Demand for a quick and effective method stimulated the invention of BONDERITE



Where Bonderite was thoroughly tested under commercial production conditions before it was placed on the market. Illustration shows Still Processing Tank type of installation. The simplicity of the Bonderizing Process also permits adaptation to any overhead material conveyor system.



The Wolverine Enameling Division of the Parker Rust-Proof Company

DURING the spring of 1929 the Wolverine Enameling Division made the first demonstration of the commercial value of Bonderite . . . the chemical process which holds paint to steel!

Here was the answer to industry's demand for a low-cost, rapid-application method of giving metal a primer base capable of holding enamel finishes *permanently*.

Refrigerator cabinet manufacturers were among the first to adopt the Bonderizing process. They found that it made possible finished surfaces far superior to those obtainable by ordinary finishing methods. They found that it was a dip process requiring but ten minutes! And the necessary equipment was inexpensive and easy to install.

Rust cannot successfully attack Bonderized metal. When steel panels or other metal parts are processed in a Bonderite solution, they come out *chemically clean*. They have a phosphate surface which absorbs enamel upon application and anchors it upon drying.

The enamel is secured for the life of the product itself, serving as a constant positive protection against devastating rust and corrosion. If accidental abrasions occur, any rust that may appear is confined solely to the exposed metal, and cannot spread to cause peeling and blistering.

Bonderizing not only increases small, or mass production, efficiency, but—through enhanced cabinet appearance and wearing quality—it is a positive *sales asset*.

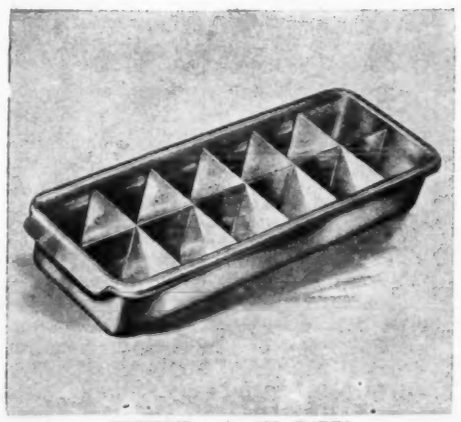
We will be pleased to supply full information regarding the process and its application to any particular requirements.

Write today for a copy of our descriptive booklet—"Bonderite."

Bonderite HOLDS PAINT TO STEEL

PARKER RUST-PROOF COMPANY
2197 East Milwaukee Avenue Detroit, Michigan

a BARGAIN in ice cube trays



TWELVE 1 1-2 IN. CUBES

A nationally known manufacturer has an excess stock of highest quality ice cube trays—copper tinned. Quick action can get these at very low cost. They are 9 1-2 in. long, 3 1-2 in. wide and 1 1-2 in. deep. Write or wire Box 313, Electric Refrigeration News, at once.

Installation of High Side Float Hookup Designed To Keep Coils Frosted Described By Gray

By Frank W. Gray

ONE of the difficult problems of commercial electric refrigeration installation has been to install freezing coils in a display counter in such a way that the pipes will stay frosted under all conditions of temperature and usage, thereby obtaining the full benefit of a frosted display.

The ammonia companies do this very nicely both by brine circulation systems and by direct expansion with their larger machines. A brine circulation system, while accomplishing its purpose, is rather expensive to install and is not particularly adapted to the smaller machines. Direct expansion, on the other hand, using the expansion valve as a means of control, often proves unsatisfactory when used with small machines in display counter cooling because constant readjustments are necessary to conform to heat conditions in keeping the coils frosted.

Butchers often want a "riser" or display coil to be built across the top of the counter, so that their customers may readily see that their meats are properly cooled by electric refrigeration.

The quick-freezing method of meat distribution which is coming into vogue will require even more extensive installations of freezing coils in display counters in order to obtain the lower temperatures.

The method of installation described in this article has proved very efficient as a means of evenly distributing refrigeration throughout a display counter cooling system, with good frost coverage at all times.

Special Construction

Some special construction is necessary in building up this installation, but this construction can either be carried out in the service shop, or by a pipe bending company, at an astonishingly low cost.

The ¼-in. liquid line from the condensing unit is connected to a "high side float" of the type used by the Servel company, and manufactured by most companies which produce the conventional boiler or float valve freezing unit. This high side float derives its name from the fact that both sides of the valve are under liquid line pressure, and it acts merely as a control for the supply of refrigerant from the receiver of the condensing unit.

From the high side float the ¼-in. liquid line is carried up to the point where it enters the display counter. Here the copper tubing is soldered to what is known among service men as a "pig tail," consisting merely of a piece of ⅛-in. copper tubing coiled about six times. The end of this ⅛-in. pig tail is soldered to a connector which is flared into a piece of ⅜-in. copper tubing on the other side.

The ⅜-in. copper tubing is welded into the 1¼-in. standard galvanized iron pipe which is bent into the shape of a riser and then carried down in several bends to form the meat shelving as in the drawing above. Upon being set into this galvanized iron pipe riser the ⅜-in. copper supply line must project to within ½-in. of the top of the riser. Three-eights in. tubing is again used to connect the two shelves formed from the galvanized iron pipe.

The bottom shelf of galvanized iron pipe terminates in what is called an accumulator, which is merely a piece of 2-in. galvanized pipe welded to the ends of the pipes which form the shelves acting as an accumulator, or reservoir, for the liquid refrigerant, thus insuring even distribution and even back pressure.

Installations in Los Angeles

A number of such installations may be hooked up to one machine with an even cycle of operation at all times. Pressure control is used in the return line to cut the machine in and out.

A number of these installations are now operating in Los Angeles, with perfect results. The pipes stay evenly frosted in the display counters at all times, while the machines cut in and out on an even cycle. No further adjustment is needed, after the system has been once put into efficient operation.

The function of the mysterious pig tail or coil of ⅛-in. copper tubing is simply to act as a sort of secondary control valve, releasing the liquid refrigerant in just the right proportion, and not allowing any lowering of pressure in the liquid line which would cause "back-frosting."

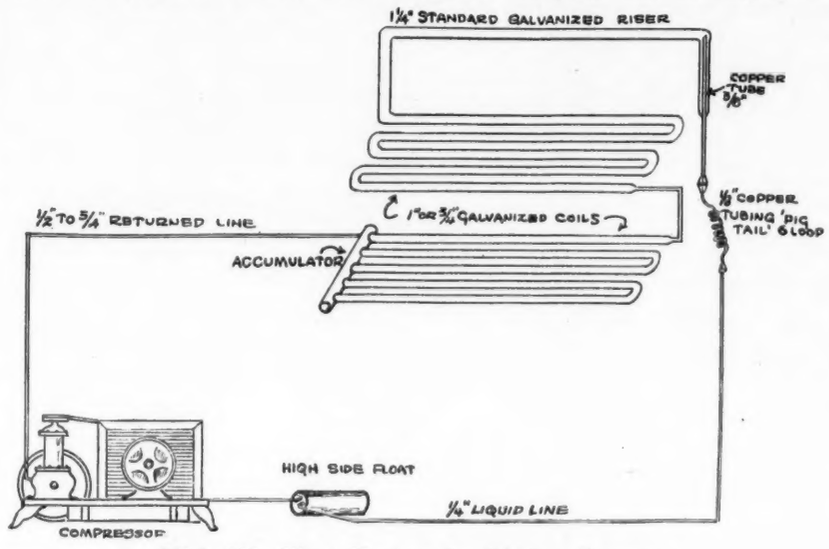
The galvanized iron pipe is of the same kind used by ammonia companies, and can be furnished, bent into shape and welded, by any pipe bending company or pipe supply company. A good refrigeration service man can assemble the installation himself in a short time. Or a plumber can put together the galvanized pipe for the installation.

The total cost of such an installation in a 12-ft. display counter, exclusive of the cost of the condensing unit or automatic control, was less than $60 in an installation of this type recently made up in Los Angeles.

Several refrigeration agencies in the writer's experience have tried to work out a "riser" installation by using the conventional type of expansion valve instead of the high side float, connecting it directly into the tube which leads into the riser. This type of installation has this disadvantage, that the expansion valve must be readjusted to conform to temperature changes, which means uneven frosting of the cooling coils.

The high side float installation needs no such readjustment, and will be found to function perfectly under all conditions of display counter installation. It has proved to be the only reliable installation of this type in a single glass showcase where heat losses are high.

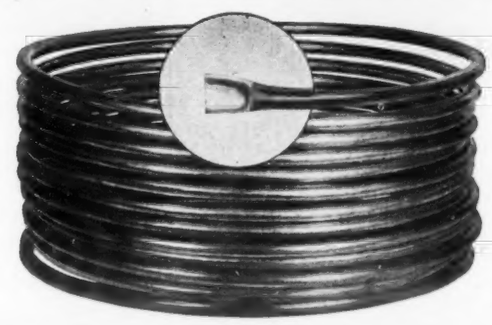
Some difficulty may present itself in getting the pipes into the display case, unless the system is partly assembled after being put into the case. Display cases are built in so many designs that it is hardly practicable here to discuss just how and where these connections should be made, but most service men can work this out for themselves with little difficulty.



High Side Float Hookup for Display Counters

DEHYDRATED WOLVERINE SEAMLESS COPPER TUBING

Highest quality seamless copper tubing—perfectly dehydrated and solder-sealed—made to A. S. T. M. Specifications (B-68-30-T)—ready for quick installation. Send your production requirements for quotations, or wire for rush shipment from stock.



WOLVERINE TUBE CO.

SEAMLESS COPPER BRASS & ALUMINUM

1491 Central Ave. Detroit, Mich.

Phone Cedar 5000

Export Department—H. M. Robins Company, 120 Madison Avenue, Detroit, U. S. A.
Cable Address: Robns, Detroit

Sales offices in all major cities. Stock available at Los Angeles, 224 E. 11th St. Write or wire for name of nearest representative

"...and here's why our refrigerators are so economical.."

When it comes to selling refrigerators, the salesman on the floor is the man who carries the ball for all the rest of us.

"Economical Refrigeration" is a big point in every retail sales talk. And Celotex-insulated cabinets give your men a real advantage in putting over the economy idea.

Your prospects already know the name Celotex. Millions of dollars worth of national advertising has already convinced them that Celotex is highly effective insulation.

Celotex insulation marks a big advance over previous methods for four sound reasons—and these reasons have caused 36 leading manufacturers to adopt this improved method of insulating their cabinets.

1. ***No heat-leaking cracks or joints.*** Each insulated area is covered with a single board of Celotex, cut to just the right length, width and thickness. There is no "patchwork" of pieces, full of leaky joints and cracks.

2. ***Maximum insulating efficiency.*** The Celotex used to insulate refrigerators is fabricated by special processes that increase its insulating efficiency to the highest practical point. It more than meets the strictest requirements of leading refrigerator engineers.

3. ***Stronger, more substantial cabinets.*** Celotex reinforces the framework of cabinets, adds lasting structural strength to walls and doors, gives your customers the desired impression of durability. Yet it is so light that it adds little to the weight of the cabinet.

4. ***Clean, odorless, sanitary.*** Celotex is made from long, tough fibres of cane that produce its remarkable insulating efficiency. These fibres are carefully sterilized. They are entirely odorless. They are waterproofed to resist absorption of moisture. No insulation could be more sanitary.

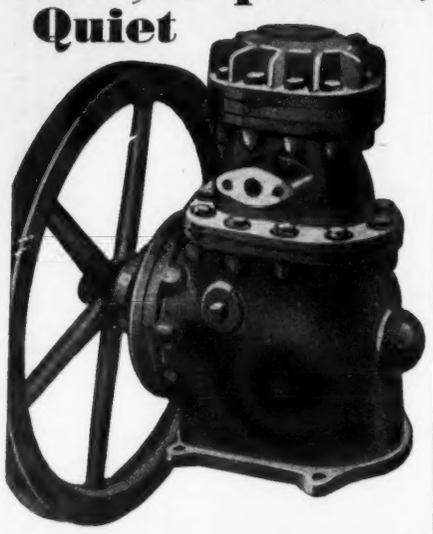
●

The Celotex Company, 919 N. Michigan Avenue, Chicago, Illinois. In Canada: Alexander Murray & Co., Ltd., Montreal. Sales distributors throughout the World.

CELOTEX
BRAND
INSULATING CANE BOARD
REFRIGERATOR INSULATION

The word Celotex (Reg. U. S. Pat. Off.) is the trademark of and indicates manufacture by The Celotex Company.

New, Improved, Quiet



PRECISION BUILT COMPRESSORS and COMPLETE CONDENSING UNITS

for Electric Refrigeration Manufacturers, Distributors and Dealers

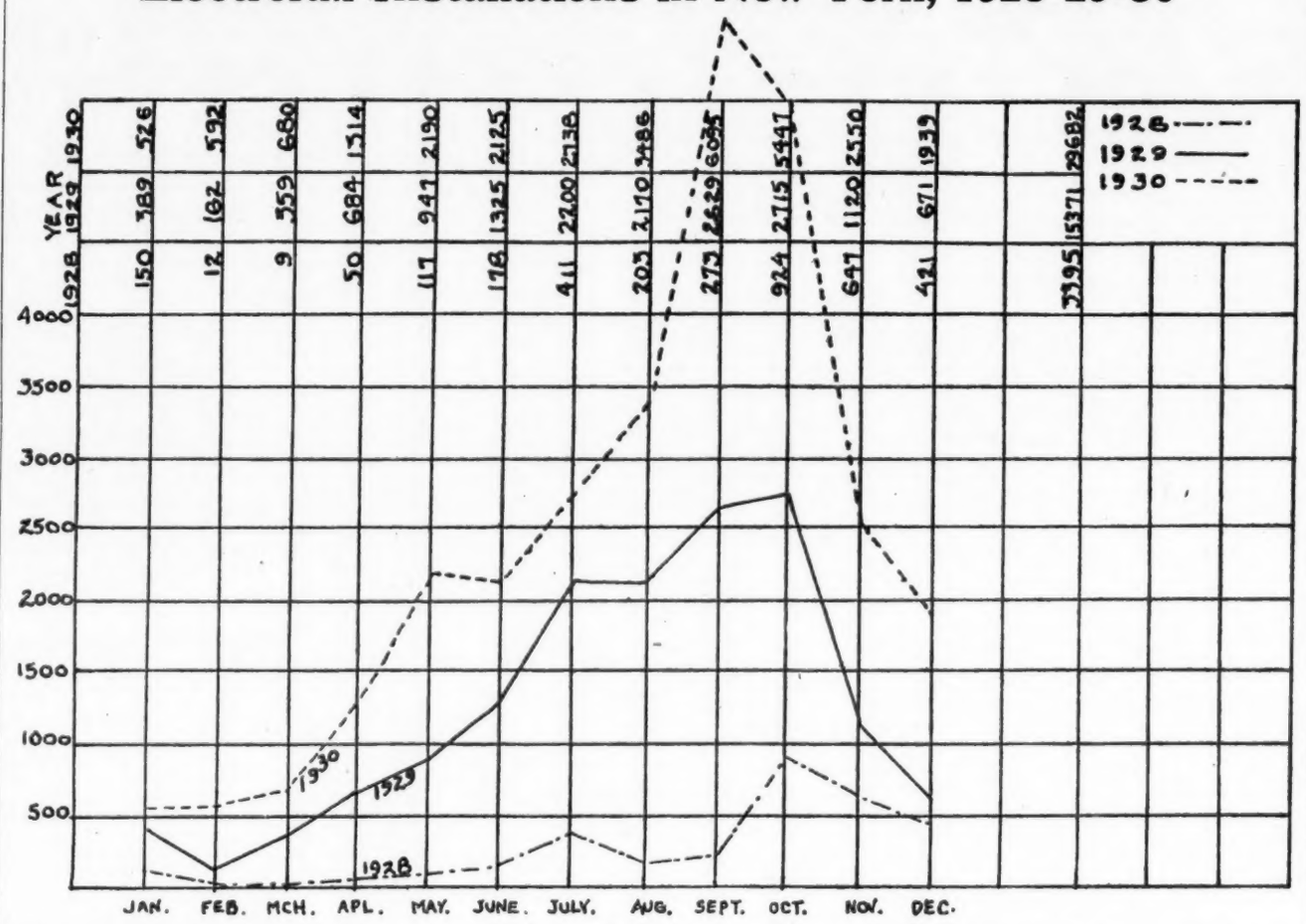
Our plan allows the assembler to advertise and sell under his own name.
Sizes for 1/6, 1/4 and 1/3 H. P.
Sulphur dioxide and methyl chloride condensing units.
Ideal for ice cream cabinets, water coolers and small commercial installations.
Prices lowest in the history of electric refrigeration.
Full details given on request.

Deissler Machine Company
Greenville, Pa.

Manufacturers of complete domestic and commercial refrigeration systems

ACTIVITIES, EQUIPMENT OF INTEREST

Electrolux Installations in New York, 1928-29-30



Figures at left show the number of refrigerators installed per month by the Consolidated Gas Co., New York Electrolux Distributor

ELECTROLUX SERVICE SPEEDED BY GAS CO.

New York City—Requests for service are handled through two telephone switchboard operators of the Consolidated Gas Co., New York distributor, who make out the service orders and place them in steel filing drawers, according to officials of the company. In these files the past performance of the refrigerator is checked, and any unusual performances noted.

The ticket is then placed in the proper pigeon hole of the district of the city from which it came. The service men calling at the office at regular intervals receive these orders and complete the job promptly and efficiently, making a written report on the ticket, according to the Electrolux officials.

The time elapsing between the customer's call and the execution of the ticket is usually less than three hours, they said. After the tickets are read, and an analysis made of all calls, they are again returned to the file where they are kept for future reference.

The service file mentioned above has an envelope for each refrigerator in service, filed according to street and number, and all installation and service records are placed in it.

Requests that refrigerators be inspected or started after a customer's vacation are also handled through the same channels, as are any requests for instruction from customers who are doubtful about the proper operation of their refrigerators.

During the winter months when installation work is relatively inactive, the excess man-power is utilized in doing periodic inspections on the existing refrigerators. The men engaged in this work report directly to the job and are despatched to a given number of refrigerators each day, where they clean the gas and water controls, and the combustion chamber.

A daily record is prepared by each man, and a notation is entered on the service files to the effect that such an inspection has been made.

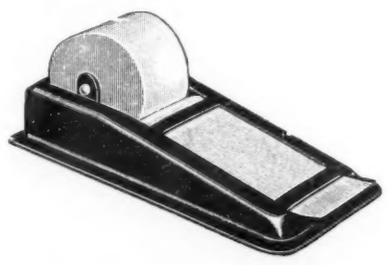
New Desk Pad for Service Men Promotes Orderly Recording of Calls

Los Angeles, Calif.—A solution to the problem of the service man who has received a telephone call for service, and must paw over his desk to find the piece of scrap paper on which he unsystematically jotted down the name and address, has been found by the Refrigeration Service Co. of this city, in the adaptation of an Adams desk memo pad to electric refrigeration service calls.

These service men designed a special printing layout with spaces for the customer's name, address, type of refrigerator, time of call, and complaint, and had it reproduced on paper rolls of standard adding machine width to fit the pad.

The printing of the rolls was done by the Western Manufacturing and Supply Company, of 247 South Central Avenue, Los Angeles, which also sells the Adams desk pads. Illustrations of the pad and printed form appear below.

Now, when a service call comes in to the Refrigeration Service Company it is



recorded with complete information in the proper place, and the danger of losing the call is reduced to a minimum.

Reproduction of the form for notating calls for service on electric refrigerators.

Name
Address
Phone
Unit Make Time
Complaint
Domestic Apt. House Com'l Charges

DETROIT MEN ORGANIZE FRIGERATOR SERVICE CO.

Detroit, Mich.—Two service men, D. C. Schomp and C. E. Harding, who were with the Absopure Refrigeration Corp. prior to the recent closing of its service department, have organized the Frigerator Service Co., 10473 Northlawn Ave.

They have completed arrangements with Absopure for handling service in this territory. Other makes of refrigerators will also be serviced by the new company.

Mr. Schomp was service manager, and Mr. Harding assistant service manager, when they were both associated with Absopure.

RESETTING CABINET DOOR IS SIMPLE TASK

OCCASIONALLY the door of a cabinet springs open during shipment, and sometimes the outer edge of it settles. When this happens the door can be reset as follows:

Lay the cabinet on its back and remove the hinges. Plug all the screw holes with Plastic Cement, which can be obtained at any hardware store, and allow the cement to harden thoroughly. Then reset the hinges in the usual way. Sometimes it is also necessary to reset the door latch.—Kelvinator *Service News.*

CLEGG INSTALLS LIPMANS

Louisville, Ky.—The A. C. Clegg Company, 110 First Street, has recently installed an ice cream hardening room for the Graves Ice Cream Company, 224 Second Street. The room, which has a capacity of 2,400 gallons, is 27 feet long by nine high by 9 wide.

The same firm sold Lipman equipment for a two-ton plant at the S. & M. Cafeteria, 421 Fifth Street. Included in this equipment were two refrigerators, two storage rooms, 13 by 13, and two salad pans.

HOLBROOK GETS CONTRACT

San Francisco, Calif.—Holbrook, Merrill & Stetson, 665 Sixth St., San Francisco, will install Holbrook electric refrigerators in all the apartments of the $60,000 three-story apartment building to be built at Beach and Scott Streets, San Francisco, for V. Rasmussen, owner. In all, the structure will contain 12 three- and four-room apartments.

DON'T FORGET THESE 5 ADVANTAGES OF INSULITE INSULATION

THERE'S a lot of difference in insulating materials. Some may have high insulating value but are fragile, inclined to settle, or are subject to disintegration; others may be affected by moisture, lose their insulating efficiency or perhaps are subject to rot and attract odors.

But Insulite combines the five important advantages of correct refrigerator insulation. It has, above all, a high thermal insulating efficiency. And Insulite is light in weight but structurally strong, — it has durability and long life. Furthermore, Insulite is chemically treated to resist moisture and is not subject to rot, mold, or disintegration. It is odorless and will not attract odors.

And remember, Insulite is so strong that wood framing can be reduced to a minimum, thus making it possible to reduce the over-all weight of the cabinet without sacrificing structural strength. Furnished, cut to size, ready for installation, the use of Insulite reduces labor costs, material waste, and speeds up production. May we send you samples and additional information.

Tell them your cabinet is insulated with Insulite. It will make the sale easier. The public knows Insulite quality. Magazines with 60,000,000 annual circulation are consistently pounding home the fact of Insulite's insulating efficiency and durability.
The Insulite Engineering Department will gladly send you figures and facts to prove to you that the use of Insulite in your cabinets will be highly advantageous and profitable from both a manufacturing and a selling standpoint.

JUST MAIL THIS COUPON

THE INSULITE CO.
(*A Backus-Brooks Industry*)
1200 Builders Exchange, Dept. 30B
Minneapolis, Minnesota
Offices in All Principal Cities
Please send me your folder on Refrigerator Insulation and also a sample of Insulite.
Name.....
Address.....
City..... State.....
If more convenient, write on margin

INSULITE
the Wood-Fiber Insulating Board

The Purest Sulphur Dioxide
EXTRA DRY
ESOTOO
Trade Mark Reg. U. S. Pat. Off.

150 35 10

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Made expressly for refrigeration use. Guaranteed to contain not over 50 parts of moisture per million.

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Write, wire or cable where we may serve you. Cable Address "Eustis Boston"

VIRGINIA SMELTING COMPANY
WEST NORFOLK, VA.
F. A. Eustis, Secretary 131 State St., Boston and 75 West St., New York

TO SERVICE MEN AND ORGANIZATIONS

MANSFIELD COMPANY DESIGNS UNIT MOTOR

Mansfield, Ohio—The Ideal Electric and & Mfg. Company has developed a complete series of "Unit Type" electric motors.

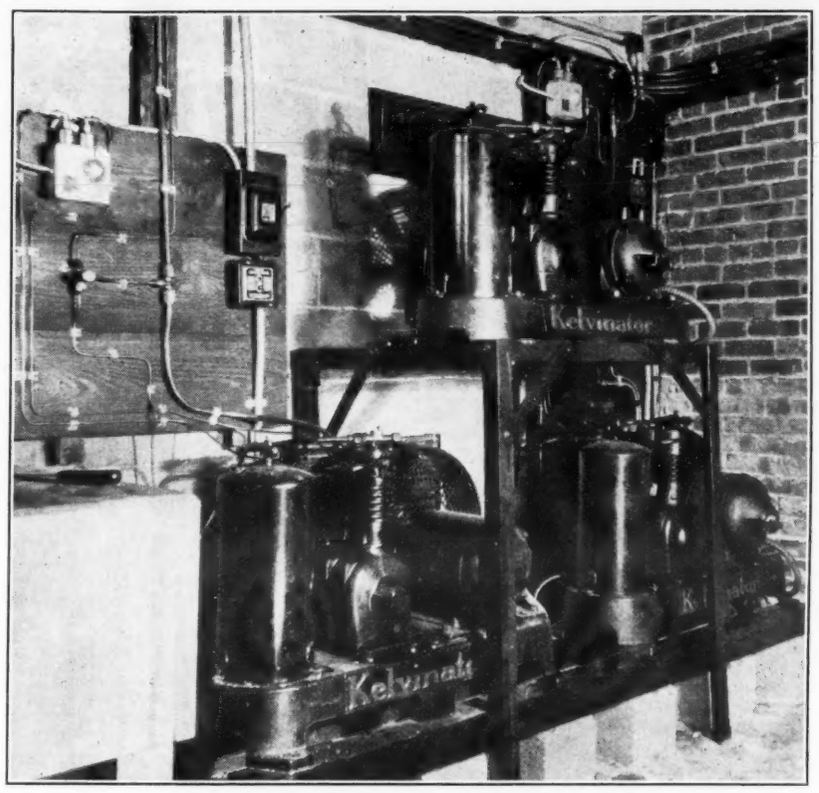
These motors are built with standardized units (rotors and stators) which are easily interchangeable for all types. Thus, standard horizontal motors, shell type motors, flange type motors, vertical motors, special applications of "built-in" motors requiring only the active elements, etc., all take the same rotors and stators.

Interchangeable standardized rotor and stator units, end brackets, bearings and bases are applicable not only to squirrel cage induction motors, but also to slip ring induction motors and direct current motors.

The Ideal "Unit Type" motors are made as standard squirrel cage induction motors, slip ring induction motors, and direct current motors, in all types of mechanical construction and electrical characteristics. The squirrel cage induction motors are made in four standard designs as regards starting torques and starting currents.

All "Unit Type" motors are designed to meet the standard torques, power factors, efficiencies, heating specifications, dielectric tests and other performance guarantees, and also the uniform mounting dimensions established by the National Electrical Manufacturers' Association. They are furnished in sizes from ½ to 200 horsepower.

Compact Installation



To conserve space in the Community Market installation, Kelvinator-Columbus worked out this arrangement. One of the compressors sets on a frame above the other two machines.

COLORS FOR FLEXIBLE CORD STANDARDIZED

New York, N. Y.—The first standard color card for flexible cord has just been issued by the Flexible Cord Group of the National Electrical Manufacturers Association. The card contains samples of colored cotton and rayon braids, 14 colors of each, together with corresponding color names and numbers.

This plan of issuing through the N. E. M. A. headquarters a single color card under the N. E. M. A. insignia is of benefit to both purchasers and suppliers of cord, officials point out, since purchasers now need keep only one kind of card, and the makers of cord will be saved the expense of distributing their own cards.

The colors in cotton are white, gray, old brass or oak, yellow, orange, light brown, olive, green, medium brown, dark brown, red, maroon, blue, and black.

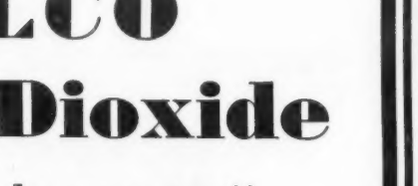
The rayon colors are white, gray, old brass, yellow, rose, old gold, tiffany, green, olive, red, maroon, blue, brown and black.

The cards are 3⅛ in. by 6⅛ in. They are obtainable at 20 cents each from the N. E. M. A. headquarters, 420 Lexington Ave., New York.

REFRIGERATOR EXCHANGE TAKES NEW QUARTERS

Cleveland.—The Electric Refrigerator Exchange, the only Cleveland firm dealing exclusively in used electric refrigerators, has moved its quarters from 5216 Euclid Ave. to 5609 Euclid Ave.

DROP AND UPSET FORGINGS



Whatever your forging problem, in the production of mechanical refrigerators, Defco has the men and machines to deliver what you want, *when you want it.*

The completeness of our plant makes it good business to consult our engineers on any work you may have or plan for the future.

DETROIT FORGING COMPANY
DETROIT MICHIGAN

SERVICE HINTS

By FRANK W. GRAY

When installing water-cooled compressors, the local condition of the water supply should be looked into before equipment is installed. If the water supply of the locality happens to be high in lime or alkali content, or excessively heavy with sediment, larger water pipes should be used to prevent stoppages. In some localities it is necessary to use water towers to conserve water.

Two-temperature ice cream cabinet or fountain installations may be made with methyl chloride systems by using the expansion valve hook-up in the following way: A brine tank with sleeves for ice cream cans is built with an insulated baffle between the lower and higher temperature sides. The expansion valve is connected to the freezing coils in the low temperature side. The low temperature ice cream sleeves are wound heavily with freezing coils, after which the coils are continued through the baffle into the high temperature side of the tank. Fewer turns of freezing coil are taken around the high temperature sleeves. Adjustments made in the expansion valve back pressure will give sufficient variation in the two temperatures.

Slow leaks in methyl chloride systems are apt to be more difficult to detect than where less volatile refrigerants are used. Minute leaks are particularly apt to develop in the connections, gaskets, or in the seal assembly of the compressor.

Such leaks may be easily found before installation by the following method: remove the electric motor from the compressor base; close all valves, leaving a full charge of refrigerant in the compressor and condensing coil; then submerge the entire unit in a tank of warm water, turning the fly wheel over by hand several times while the machine is under water.

The warmth of the water will build up a pressure of vaporizing gas in the machine, and a trail of bubbles will disclose leaks that even soap and water will not always locate.

Small leaks in the water coil of water-cooled receivers are difficult to find since the water coil is entirely enclosed by the steel shell of the receiver.

In order to make a quick and effective test for such a leak, shut off the water supply to the compressor, and run the machine just long enough to build up a high head pressure (about 150 pounds). Then shut off the machine, and connect a piece of copper tubing to the waste water outlet on the receiver, carrying the end of this tubing connector into a container filled with oil.

If the refrigerant in the receiver is leaking into the water coil, a trail of bubbles will soon disclose the leak, however small it may be. The 150 pound pressure will, of course, make the test certain.

Large machines operating on commercial or apartment house systems should be periodically tested for high head pressure. High head pressure is an all too common defect of operation, and results in high electric bills, carbonized oil, pounding bearings, worn out belts, poor condensation, and occasionally burned out motors.

Although high head pressure is usually a result of overloaded units, it is often caused by a partial stoppage in the receiver assembly, particularly when the unit has been in operation for some time.

A service man can easily test for stoppage caused by dirt in the receiver in the following way: the system is pumped down, the liquid line outlet from the receiver is disconnected, and a tubing connector is by-passed from the head of the compressor to the liquid outlet on the receiver.

Then the valve is "cracked" on the compressor head, releasing enough pressure to blow out any impurities which may be lodged in the liquid line orifice in the receiver.

Where it becomes necessary to repair compressors with burned out babbitt bearings, a very efficient set of bearings can be turned out of cast iron by any good machinist. Many service men claim that the substitute cast iron bearings give longer and better service than the babbitt bearings.

When large dryers are assembled in the service shop to absorb moisture from apartment house or commercial systems, an additional precaution to prevent the powdered calcium chloride from washing through the system and stopping up the valves is as follows: cut circular discs of ordinary soft felt to the size of the dryer, two or three of which discs should be placed behind the fine mesh screen in each end of the dryer.

These felt pads will permit the free passage of the liquid refrigerant, but will effectively collect any fine particles of calcium which might otherwise pass through the fine mesh copper screens and be carried into the system.

In cutting out the felt discs to be placed in the special-sized dryers, a time-saving punch may be made from a piece of pipe of the same size as the dryer, filed down to a cutting edge on one end, and capped on the other to permit hammering. With such a punch felt discs may be cut more rapidly and accurately than with knife or shears.

When a charge of refrigerant is removed from a system which has been in operation for some time, the refrigerant should be subjected to a cleaning process before being put back into the system. Particles of carbonized oil, metallic scale, perhaps a little moisture, and other impurities will be present to some degree in a charge of refrigerant which has been in use for a year or more.

A large dryer of the type that the writer described in a previous "Service Hint," constructed of 3" pipe, about 18" long, capped on each end and with the required fittings sweated into the caps can be effectively used for the purification process.

This dryer should be filled with calcium chloride, inclosed with fine meshed copper screens and several layers of felt (as described on this page) at each end. By circulating the charge of used refrigerant several times through such a dryer, impurities will be absorbed or collected on the felt and screens.

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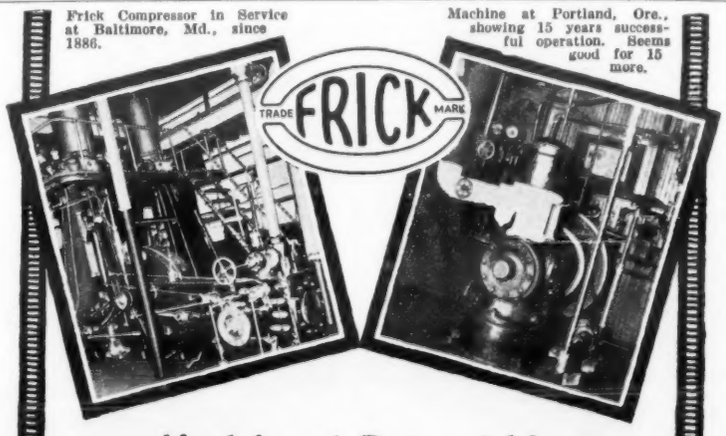
Frick Compressor in Service at Baltimore, Md., since 1886.

Machine at Portland, Ore., showing 15 years successful operation. Seems good for 15 more.



Useful and Dependable Through 44 Years

Designed and built so well that they last a lifetime, Frick Refrigerating Machines give the long-run, satisfactory service that brings repeat orders. Nearly 50 years successful experience in mechanical refrigeration (since 1882) is back of every Frick plant.

Frick Company
WAYNESBORO, PA. U.S.A.
"MACHINERY SUPERIOR SINCE 1882"

NEW PATENTS IN REFRIGERATION FIELD

ISSUED JANUARY 20

1,789,329. SEALING AND THRUST BALANCING MEANS FOR ROTARY COMPRESSORS AND ANALOGOUS MACHINES. Ernst Wolf, Leipsig, Germany, assignor to Carrier Engineering Corporation, Newark, N. J. Filed Nov. 23, 1923, Serial No. 676,667, and in Germany April 19, 1923. 10 Claims. (Cl. 286—9.)

1,789,336. FOOD-PRESERVING CABINET. John H. Johnson, Chula Vista, Calif. Filed Feb. 20, 1928. Serial No. 255,820. 3 Claims. (Cl. 45—71.)

1,789,346. REFRIGERATION. Robert Seth Taylor, New York, N. Y., assignor to Electrolux Servel Corporation, New York, N. Y., a Corporation of Delaware. Filed Jan. 30, 1929. Serial No. 336,118. 20 Claims. Crl. 62—119.5.)

7. That improvement in the art of refrigerating by the aid of a multiple absorption cycle system including a first cycle comprising a generator and a first absorber and a second cycle comprising a second absorber and an evaporator which consists in conveying different absorption liquids of different specific gravities in the first and second cycles and maintaining a separation of the different absorption liquids by flatation.

8. Refrigerating apparatus comprising an evaporator and an absorber arranged at substantially the same level and interconnected to form equalized pools of liquid in the lower parts thereof, means to supply a solution to the evaporator, means to supply absorption liquid to the absorber and means to withdraw solutions from both the evaporator and the absorber.

1,789,389. ACCUMULATOR CONTAINER IN EXPANSION COILS. Jacob G. Peck, Portland, Oreg. Filed Dec. 28, 1925. Serial No. 77,239. 2 Claims. (Cl. 62—101.)

1. A device of the character described, for an expansion coil embodying a single and a compound series of convolutions comprising a container communicating with said coil in advance of the first stage of the compound convolution; said container having diametrically opposite portions of its side wall adjacent its upper end communicating with said coil; and said cylinder being adapted to complement the refrigerant capacity of said coil.

1,789,394. REFRIGERATOR LATCH. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corporation, Dayton, Ohio, a Corporation of Delaware. Filed February 27, 1928. Serial No. 257,302. 5 Claims. (Cl. 292—98.)

1. In a latch system for a refrigerator door in combination, a door and a frame therefor, a latching means carried by said door, and a keeper system therefor carried by said frame, said keeper comprising a plate movable vertically in said frame and biased to a certain position, a roller member on said plate and at right angles thereto and forming a keeping member, said latching means comprising a plate pivoted and adapted to move horizontally in the plane of the panel of said door, a latching nose carried by said plate at right angles thereto and adapted to engage said roller and to move with said plate, and handle means operable from the exterior of said door to disengage said nose from said roller by operation of said plate.

1,789,395. PUMP FOR REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corporation, Dayton, Ohio, a Corporation of Delaware. Filed Feb. 29, 1928. Serial No. 257,818. 9 Claims. (Cl. 230—184.)

1. A valve plate for a compressor or the like comprising a flat sheet metal plate stamped out of a sheet of metal and having valve seats formed thereon arranged to be covered by valves and being shaped to be mounted between the cylinder head and the cylinder body of a compressor and having the zone of deformation caused by said stamping operation located outside of the effective valve plate area and constituting a heat radiating fin.

1,789,396. PUMP FOR REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corporation, Dayton, Ohio, a Corporation of Delaware. Filed Sept. 29, 1928. Serial No. 309,222. 19 Claims. (Cl. 230—211.)

1,789,505. APPARATUS FOR PRODUCING SMALL CUBES OF ICE. Michael J. Uline, Toledo, Ohio, assignor to Gifford-Wood Company, Hudson, N. Y., a Corporation of New York. Filed June 25, 1928. Serial No. 287,934. 7 Claims. (Cl. 62—112.)

1,789,532. REFRIGERATOR CABINET. Albert H. Morrell, Clinton, Iowa. Filed June 13, 925. Serial No. 36,797. 8 Claims. (Cl. 217—17.)

1. A refrigerator cabinet comprising side walls made of cement reinforced by metal lath, laminated heat insulating material adjacent said metal lath, ground heat insulating material adjacent said laminated material, receptacles within said cabinet, and felt heat insulating material surrounding all of the receptacles as a group.

1,789,533. REFRIGERATOR CONSTRUCTION. Albert H. Morrell, Clinton, Iowa. Filed Dec. 7, 1925. Serial No. 73,583. 12 Claims. (Cl. 217—17.)

1. In a refrigerator construction, a wall having a permanent laminated core formed structurally of a plurality of boarded wall supporting layers of manufactured insulating boards having their side surfaces secured directly together and forming a solid wall supporting and insulating core.

1,789,561. REFRIGERATING APPLIANCE. Charles A. Moore, Edina, Minn. Filed May 2, 1929. Serial No. 359,803. 6 Claims. (Cl. 257—18.)

2. In combination, a room, a refrigerating appliance therein comprising a double duct structure disposed longitudinally of the room near the ceiling centrally thereof and providing two superimposed cooling channels, a first channel with an inlet opening extending along the top thereof and a second channel with a central outlet opening in the bottom thereof, said channels being in communication with each other at their corresponding ends, and a fan disposed adjacent said central opening for impelling the flow of air through the duct structure.

1,789,578. ICE-CREAM CABINET. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Company, Flint, Mich., a Corporation of Michigan. Filed Oct. 14, 1926. Serial No. 141,464. 5 Claims. (Cl. 62—101.)

1. A cabinet for holding ice cream or the like, of the type which is cooled by a power refrigerating mechanism, comprising a primary unit having a refrigerant coil connected to the refrigerating mechanism for cooling the same, a secondary unit having a coil operatively connected to the primary unit coil, this secondary unit being arranged to be disconnected from the primary unit, and a removable wall section for the cabinet which may be removed when the two units are disconnected and then placed over the end of the remaining unit to form an end wall of the cabinet.

1,789,591. HEAT-EXCHANGE APPARATUS. Patrick J. McIntyre, Detroit, Mich., assignor to Wolverine Tube Company, Detroit, Mich., a Corporation of Michigan. Filed March 19, 1928. Serial No. 262,921. 7 Claims. (Cl. 257—255.)

1. In heat exchange apparatus, a single length of tubing bent to provide a plurality of spaced straight parallel tubes and curved portions connecting the same, the straight tubes being of flattened cross section and the curved portions being of circular cross section.

1,789,592. REFRIGERATING APPLIANCE FOR COLD-STORAGE ROOMS. Charles A. Moore, Edina, Minn. Filed May 2, 1929. Serial No. 359,802. 23 Claims. (Cl. 257—18.)

7. A refrigerating appliance comprising longitudinally extending, upper and lower cooling channels having openings at their top and bottom sides respectively, and open at their corresponding ends, and a connecting passageway between the open end of one channel and the adjacent open end of the other channel, and a pair of fans disposed in said passageway, one adjacent the open end of the upper channel and the other adjacent the open end of the lower channel, said fans being adapted to draw air from the upper channel and force it into the lower channel.

1,789,694. COMPRESSOR. Ransom H. Beman, Detroit, Mich., assignor to Couzens Ice Machine Company, Detroit, Mich., a Corporation of Michigan. Filed March 3, 1926. Serial No. 91,942. 4 Claims. (Cl. 230—55.)

1. In a compressor for transmitting a refrigerant, the combination of compressing mechanism including a water cooled piston and cylinder construction and an operating mechanism for the said compressing mechanism in longitudinal alignment with and secured to the said cylinder construction including a casing, all the moving parts of the said operating mechanism being entirely enclosed within said casing, said casing and cylinder being secured together by a gas-tight joint.

1,789,739. HEAT-EXCHANGE APPARATUS. Norman H. Gay, Los Angeles, Calif. Filed Nov. 5, 1929. Serial No. 404,939. 10 Claims. (Cl. 257—229.)

1. In a heat exchange apparatus, a receptacle, inlet and outlet headers located at right angles to one another and spaced apart in a vertical direction, a plurality of coils connecting said headers, means to admit refrigerant from the outlet header, and a substantially vertical being provided with a plurality of aperatures to produce jets of liquid whereby a cause mixing of the liquid within the receptacle.

1,789,913. REFRIGERATING APPARATUS. William F. Swezey, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1929. Serial No. 337,876. 6 Claims. (Cl. 62—116.)

1. In combination, a refrigerator cabinet provided with insulating walls, a unitary and operatively interconnected refrigerating apparatus carried by one of said walls, said cabinet being provided with a lining adjacent the latter wall, and means permitting the removal of the insulating wall carrying the interconnected apparatus from the cabinet, while leaving the lining in its fixed position.

1,789,914. REFRIGERATING APPARATUS. Matson C. Terry, Milton Kalischer and Thomas A. Buckley, Mansfield, Ohio, assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 15, 1929. Serial No. 340,273. 10 Claims. (Cl. 62—95.)

1. A cooling unit comprising a double-walled, how shell provided with inwardly extending recesses at opposite ends.

10. In a refrigerating apparatus, a base, a heat-dissipating unit mounted on the base, a heat-absorbing unit, means for suspending the heat-absorbing unit from the base, said means comprising a heat-conducting portion and a heat-insulating portion located between the base and the heat-conducting portion, and conduits interconnecting said units, said conduits passing through both said portions.

1,789,916. REFRIGERATING APPARATUS. Frank Thornton, Jr., Mansfield, Ohio, assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 4, 1929. Serial No. 337,209. 7 Claims (Cl. 62—116.)

1. In a refrigerating apparatus, a base adapted to rest on the top insulated wall of a refrigerator box, a refrigerant medium circulating from said base beneath said insulating wall, and conduits interconnecting said units, characterized by the fact that the box is so constructed that the assembled and interconnected units may be removed from the box only in a horizontal direction.

ISSUED JANUARY 27

1,789,978. REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed March 31, 1927. Serial No. 179,955. 7 Claims. (Cl. 286—11.)

1. In combination, a case; a shaft journalled within the case and having one end thereof extending through a wall of the case; sealing means for the shaft opening in said wall including a shoulder on said shaft forming a sealing element, a second sealing element engaging said first element, means for forcing one of said elements toward the other, a flexible wall joined with the second element and case, a clamping gland secured to the case, and a resilient backing for said flexible wall interposed between said clamping gland and said second element.

1,789,984. REFRIGERATING MEANS FOR PRECOOLING AND COLD-STORAGE ROOMS. Charles A. Moore, Edina, Minn. Filed Aug. 15, 1924, Serial No. 732,344. Renewed Sept. 17, 1928. 13 Claims. (Cl. 62—102.)

1,790,015. COOLER OR HEATER. Clifford Morrow, Canton, Ohio, assignor to The H. H. Miller Industries Company, Canton, Ohio, a Corporation of Ohio. Filed Aug. 29, 1928. Serial No. 302,863. 4 Claims. (Cl. 257—184.)

1,790,067. REFRIGERATION. Ernest B. Miller and Axel Benzon, Baltimore, Md., assignors to The Silica Gel Corporation, Baltimore, Md., a Corporation of Maryland. Filed July 22, 1924, Serial No. 727,447. Renewed Dec. 29, 1927. 26 Claims. (Cl. 62—179.)

1,790,223. REFRIGERATING APPARATUS. George A. Buvinger, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Oct. 31, 1927. Serial No. 229,920. 6 Claims. (Cl. 62—101.)

1. Refrigerating apparatus comprising in combination a storage container for refrigerating liquid having insulating walls and a heat transmitting wall, a storage compartment adjacent the heat transmitting wall, a circulating contained for refrigerating liquid disposed in the compartment opposite the heat transmitting wall and connected to the storage container, and means for chilling the liquid in the storage container to set up circulation through both said containers.

(To Be Continued)

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CONDENSERS
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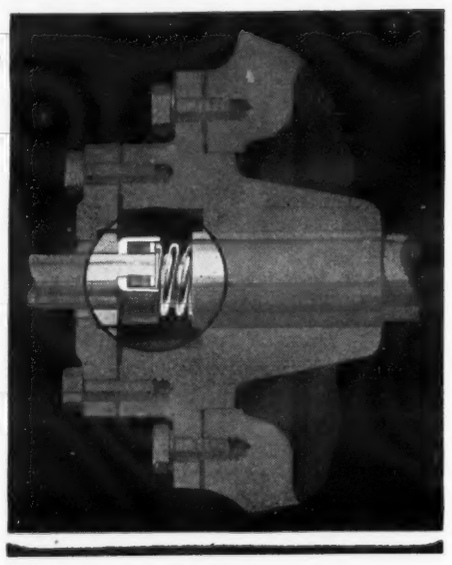

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Exclusive features of construction make the Leland motor unusually rugged and powerful. Spring mountings eliminate vibration. Yet it is so quiet that standing three feet away, you cannot detect a sound. It is these features that make the Leland the best motor yet developed for electric refrigeration. Available in various fractional sizes.

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DENNEDY FIGURES IN PATENT TEST CASE

S a test on the validity of the Dennedy patents for float and pressure control in refrigerating machines, Servel, Inc, opened suit some time ago against the Norge distributor in New Haven.

This case was tried during the week of Jan. 5 at the usual length necessary in such cases, and the verdict has not yet been announced. The evidence brought out some interesting history.

Craig Dennedy in 1920 patented a combination of float control for a refrigerator evaporator, high or low side, with a pressure control or switch for the driving motor. At this time he was connected with Kelvinator, to whom he offered this scheme as a means of avoiding further trouble with thermostats, which had been severe enough to threaten the existence of the company. His proposal was then thought too radical and was not adopted until later.

Since then this system has become almost standard, but no patent rights have been pressed. Mr. Dennedy later started a small company which became Servel, giving Servel and Kelvinator rights to the system after they had entered into an agreement and paid the inventor his claims.

At New Haven the defense lawyers were representatives of other companies beside that of the defendant, anticipating that if this suit were won it would lead to various others. They showed a number of patents in which both the float control and pressure control appeared, and endeavored to prove a combination of them had been implied in others. The claim is so very broad that considerable evidence of this nature could be brought in.

It is anticipated that whichever side wins, there will be an appeal and further procedure. The eventual settlement, however, will be important, like the notable Frigidaire suits of three years ago.—*Refrigerating Engineering.*

CONNECTICUT COMPANY COMPLETES JOBS

New Haven, Conn.—New Haven Electric Co., 131 St. John Street, Copeland distributor, has installed a specially-built case with a 1-R 64C unit and a special Larkin coil, in the florist shop of D. Nespeco, 627 Grand Avenue. A small box for cut flowers was also placed in the shop.

A second installation for the National Economy Stores in the New London district was made with the placing of a Model XA air-cooled unit with 86C and two 12 C Larkin coils. They refrigerate a walk-in cooler and a 12-foot counter case. The case was built by the Tassi Cabinet Co., New Haven.

A specially-built biological case with a brine system has been installed in the health department of the city of Waterbury. A Seeger A P. 32 cabinet with special equipment was installed.

FRIGIDAIRE IN PORTLAND PLACES MORTUARY JOB

Pownal, Me.—Installation of an electrically refrigerated mortuary cooler was completed recently at the Pownal State School by the Portland branch of the Frigidaire Sales Corporation of New Eng.and.

The McCray cabinet, with a capacity of 4 cadaners, is equqipped with one N compressor and two 5-70 F coils.

Two AP 18's were also installed in the school diet kitchens.

JOINS FLORIDA COMPANY

Jacksonville, Fla.—C. E. James, formerly of the Lektrik Shop, Inc., of Ft. Pierce, has been appointed manager of the Electric Refrigeration Co. of Jacksonville, handling General Electric refrigerators.

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Large Service Staff Looks After Refrigeration Installations in Los Angeles Area.

* * *

COAST COMPANY EXPANDS REFRIGERATION BUSINESS

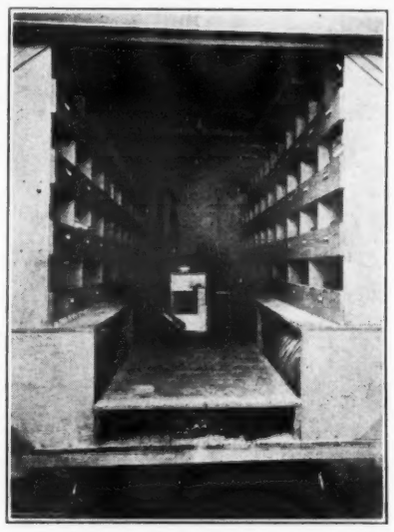
Los Angeles, Calif.—Holbrook, Merrill and Stetson, since entering the mechanical refrigeration field, have gradually branched out and at the present time are manufacturing refrigerating units, cabinets, display and show cases. Recently, the NuWay Fixture Co. of Los Angeles was acquired by this company.

L. W. Ward, who had been associated with refrigeration companies in the Middle West, joined the company about two years ago as general manager, and under his guidance sales of H., M. & S. refrigeration equipment jumped. During the first eleven months of last year refrigeration sales totaled better than $3,000,000.

At first the Pacific Coast company merchandised several makes of domestic and commercial refrigerating units and a considerable volume of business was worked up through branch offices and dealers. During the past two years an experimental and research department was established for the purpose of bringing out condensing units of their own, instead of buying them from other manufacturers. This department, in addition, has been assisting dealers in laying out multiple installations for large apartments.

The Los Angeles branch, in order to handle increased business, has found it necessary to evolve a mobile storeroom. A special body was built on a 1½-ton, 157-in. wheelbase chassis. The interior of the truck is divided into compartments, in which are carried all the necessary tools and materials for complete installations. The use of this truck has cut down time lost by mechanics in waiting for material. It makes daily trips to each job, where the mechanics requisition the material necessary for that day's work.

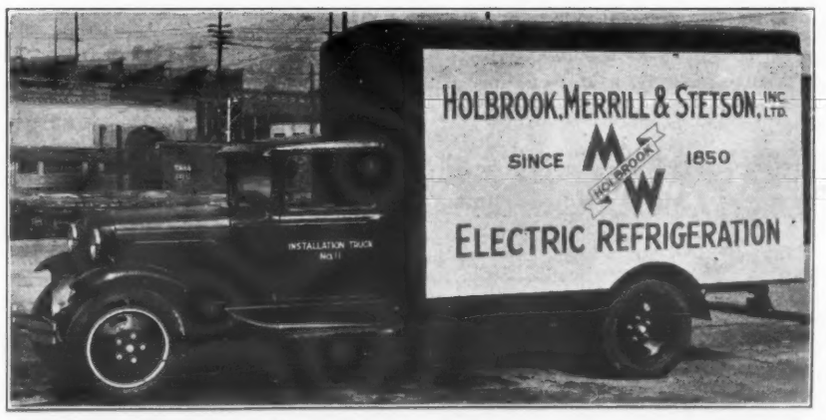
The group pictured here is of the installation department of the Los Angeles branch. Factory branches are maintained at Long Beach, San Diego, Los Angeles, San Francisco, Oakland, Sacramento. Each branch covers its territory through dealers. These branches and dealers are covering practically all the Pacific Coast States and part of the inter-mountain territory. Holbrook and Merrill are also shipping units to dealers in Canada and in South and Central America.



Stock Compartments in Service Truck

The organization of Holbrook, Merrill and Stetson dates back to 1850, one year after the great California gold rush. They provided the pioneers with cook stoves and heaters and the name of the company became well known along the Coast. When manufactured gas came into popular use, gas stoves and heaters were added. Plumbers' supplies were also sold. Their first connections with manufacturers were as sales representatives, but later on this company started manufacturing a large line of stoves and heaters.

Service Shop on Wheels



Holbrook, Merrill Find This Mobile Stockroom a Good Time-Saver.

MAJESTIC REPORTS GOOD PROGRESS IN MAINE

Portland, Me.—The rural communities of Maine are showing considerable interest in the Majestic electric refrigerator, according to Guy R. Coner, manager of Majestic Distributors, Inc.

While town dwellers have purchased some of the units, the majority have gone to farms located in the country, he reports. Farmers in Aroostook County, the home of Maine potatoes, have been large purchasers, while many sales have been reported at Eastport, the most eastern port in the United States.

Seventy-five dealers of Majestic radios in Maine are also selling Majestic refrigerators.

ADDITIONAL SPACE TAKEN BY REX COLE

New York, N. Y.—Rex Cole, Inc., General Electric refrigerator distributor, has leased the third floor, 9,200 sq. ft in the Rex Cole Bldg. at 257 Fourth Ave., southeast corner of 21st St.

After the completion of alterations, the additional space will be occupied by the administration, operating and sales promotion departments of the corporation, leaving the entire second floor to the sales departments.

PANKEY REORGANIZES

Shreveport, La.—Reorganization has been completed by the Guy H. Pankey, Inc., Frigidaire dealer, and in the future the company will be operated by the Querbes Co., Inc., under the name of Family Electrical Appliances, Inc. The company is located at 201 Milam Street.

MARKET BUYS SYSTEM

South Norwalk, Conn.—An ammonia compressor refrigeration machine has been installed in Fay's Cash Market here, by the local office of the Carbondale Machine Co.

Sulphur Dioxide!
For Direct Charging!
Every Container Analyzed
"Pure" Bone Dry . . . Cylinders 2 to 150 lbs
ANSUL Chemical Co MARINETTE, WIS
Also . . . Ton Drums-Tank Cars

BALTIMORE DEALERS ADD REFRIGERATION

Baltimore, Md.—Parks & Hull, Inc., 1031-35 Cathedral Street, distributor of a wide range of automotive equipment and radios, has been appointed local distributor for the Westinghouse electric refrigerator.

S. Gordon T. Parks is president of Parks & Hull, Inc. George E. Hull is another executive member of the firm.

Spott Brothers, Charles and 21st Sts., have again taken on retail dealership for the General Electric refrigerator.

The Helms Radio Co., 837 West 36th Street, is a newly organized concern in Baltimore, Md., which has been appointed a dealer for the Frigidaire. It is one of the four metropolitan Baltimore dealers of the GM radio which is carrying the Frigidaire.

The Brager-Eisenberg Co., department store, Eutaw and Saratoga Streets, local branch of the American Department Stores Co. of New York, has taken on the retail distribution of the Leonard electric refrigerator. Lou Micheals is vice-president and general manager of the local branch.

Send us your Blue Prints

Savings on Shafts
If you're gunning for profits in 1931, look for the little things that *count*, like savings on shafts. Get our prices. Compare them with your costs and add the saving to the *black* figures in your ledger.
MODERN MACHINE WORKS, INC.
156-160 No. Milwaukee St., Dept. D, MILWAUKEE, WIS.

Highest **Filtrine** *Efficiency*
FILTERS & COOLERS

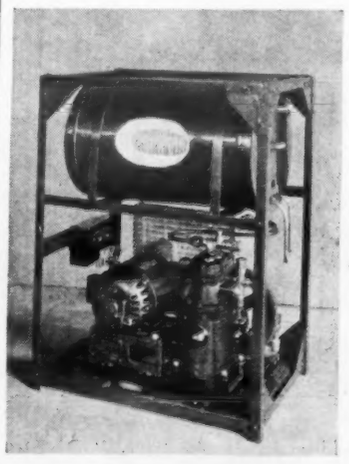
PURE, COLD WATER 24 HOURS A DAY. . . .

Filtrine offers a well-rounded line of Cabinet type coolers, Remote type coolers and complete circulating systems.

Filtrine was the first to employ the *direct contact,* pressure-storage method of cooling drinking water for electric refrigeration. The use of large storage tanks eliminates short-cycling-high head pressure—making it possible to deliver peak loads in excess of condenser hourly capacity. Pure, cold water is assured 24 hours a day.

Complete tanks with low sides for insertion in existing water coolers are now available.

No. 1-C. Self-contained cabinet with filter-faucet. 23 in. wide, 16 in. deep, 45 in. high.


No. 4 Cooler. Illustration shows Remote type suitable for under the counter, for hanging on column or ceiling. Made in various sizes.

FILTERS
Every water cooler should have a Filtrine filter. Remover taste. Low priced. Easily installed.

Filtrine Filters not only insure pure sparkling water, free from taste and odor, but also protect formation of sludge in compartment where Drinking water is cooled; thus protecting and prolonging the Cooler Efficiency.

No. 4 Filtrine Filter, small size, lightweight and compactness permits installation either in Cooler or in the water supply line to the Cooler.

FILTRINE MFG. CO.
49 LEXINGTON AVENUE
BROOKLYN, N.Y.

Fulco REFRIGERATION COVERS

Insure deliveries without scratches or broken enamel. Write our nearest plant today for prices, giving dimensions of your boxes. We also make Dust Covers.

Fulton Bag & Cotton Mills

Atlanta Brooklyn Minneapolis St. Louis New Orleans Dallas Kansas City, Kan.

"EBCO"

SELF-CLOSING

GLASS FILLER VALVES

for Water Coolers

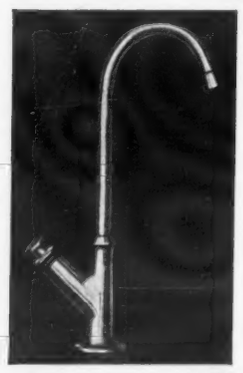
C-1600-H

With Regulator and Stop Adjustable Flange.

Size 3-8 in.

Chrome Plated.

2 and 4 prong handle style.



No. 500 GLASS FILLER

Push button type.
Chrome plated-polished.
3-8 in. tap in the bottom.
Any length spout.
Easy to operate.
Won't chatter.

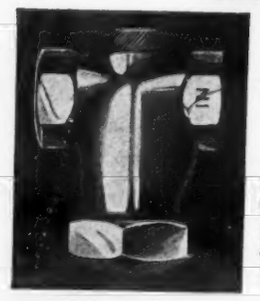
No. 600 GLASS FILLER

Roller Bearing.

Valve is self-closing with volume regulator.

Same specifications as No. 500.

Priced very moderately.



C-1800 STRAINER and STOP VALVE

Removes scale, gravel and all foreign particles from the drinking supply. A safeguard against line stoppage.

WRITE FOR PRICES AND SPECIFICATIONS

THE D. A. EBINGER SANITARY MFG. CO.

COLUMBUS, OHIO

Manufacturers of EBCO Drinking Fountains, Ventilated Urinals and Closets, Round Wash Sinks and Steel Compartments for Toilet Rooms.

WESTERN COMPANY EQUIPS 3 BUILDINGS

Kansas City, Mo.—The Western Kelvinator Co. recently completed the installation of three large water cooling jobs.

The first unit of four stories of the Toll Building of the Southwestern Bell Telephone Co., which has just been completed, is equipped with a WF 40 condensing unit, connected with four 35-S Temprite cooling units.

The Bryant Building has provided Kelvinator cooled drinking water for the use of office tenants on all of its twenty-six floors.

One WR 20 condensing unit in the sub-basement operates 11 Model 35-S Temprite cooling units on the first eleven floors, and another on the twelfth floor operates the units on the remaining floors.

The Dierks Building, which was recently increased from seven to eighteen stories, has installed two WR 20 condensing units. Nineteen Model 623 Halsey-Taylor drinking fountains are connected with Model 35-S cooling units. One of the condensing units was placed in the sub-basement to operate coolers on the first seven floors and the other on the seventh floor to operate the coolers on the upper ten floors.

Installation of a WR 40 and a WF 40 Kelvinator condensing units and three X-5131 coils to cool a three-section Viking cabinet for dairy products, vegetables and meats in the Scottish Rite Temple here, was recently completed.

BIG ORDER ANNOUNCED AT PORTLAND MEETING

Portland, Me.—During the recent convention of Kelvinator sales representatives, the principal speakers predicted that 1931 would be a banner year for the electric refrigeration industry.

As a climax Roy E. Holden, sales manager of the Cumberland County Power & Light Co., distributors in Cumberland and York Counties, announced that his firm had just received an order for 180 units to be installed in the Eastland Hotel, Portland, where the convention was being held.

Seventy-five salesmen representing the Twin State Gas & Electric Co., the Public Service Co. of New Hampshire, the Central Maine Power Co. and the Cumberland County Power & Light Co., were present.

NEW WAYNE DEALER IN SEATTLE

Seattle, Wash. — The Queen Anne Plumbing Co. of Queen Anne Hill has been appointed agents for the Wayne electric refrigerators and oil burners. Stanley Atkinson, formerly sole owner of the Queen Anne Company, is now joined by Dick Rowe, as a partner.

WE BUY

New and Used ELECTRIC REFRIGERATORS

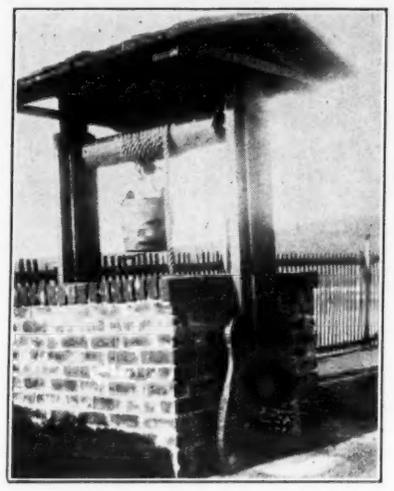
In Any Condition

Phone, Write or Wire All Details, Type of Motor, Size of Box, Etc.

KASKEY & QUINN, Inc.

525 Arch Street Philadelphia, Pa.

Frigidaire Keeps Well Filled



Corona del Mar, Calif.—This bucket looks like the old-fashioned kind, but there is a difference. It does not descend into deep cool depths far down into the ground. This well is only a few feet deep, lined with concrete, so it will hold the water which is pumped into it. A Frigidaire does the work, and it is merely pumping out its waste water.

Water is a scarce and precious article in California, so the maker of the well, J. J. Mustard, decided to use the waste water from the Frigidaire machine in his establishment, for some practical purpose. So he constructed the well, which is ornamental as well as useful, and by means of the underground pipes made it possible for the water to be pumped into the well.

It was something of a mystery to many, how the bucket was usually dripping water when they never saw it descend into the shallow well. The secret is the pipes running up the sides of the well, and through the windlass. A short bit of pipe concealed under the knot of rope on the bail of the bucket allows the water to flow through the bail, which is in reality, made of very small pipe, and into the bucket from both sides.

The water is piped out from below the well when it is desired for sprinkling the lawn or flowers.

DISTRIBUTOR ADDS NEW DEALERS IN CONNECTICUT

New Haven, Conn.—Connecticut Electric Refrigerating Co., 149 Temple St., Westinghouse refrigerator distributor for Connecticut, has announced three additional key-dealers in the Connecticut territory.

The Hotchkiss Buick Co., Waterbury; Dove's Music Shop, Torrington, and the Connecticut Light & Power Co., New Milford, are the new outlets, according to Norman K. Fuller, sales promotion manager.

MAULDIN WITH KELVINATOR IN SPRINGFIELD

Springfield, Ill.—T. L. Mauldin, former district sales manager with General Electric in Springfield, has been appointed assistant district manager by the Kelvinator Corp. He will make his headquarters at 210 South Fifth St. here.

NEW COMPANY TO SELL SERVEL IN KANSAS CITY

Kanasas City, Mo.—W. A. Bowyer has organized the Servel-Larkin Refrigeration Co., 1508 Grand Ave., to handle the distribution of Servel equipment in forty counties in northwest Missouri and northeast Kansas.

TAKES POST IN CANTON

Canton, Ohio—L. S. McCrary has come to Canton to assume the local managership of the Frigidaire Sales Corp.

Mr. McCrary has been in the electric refrigeration business for the last ten years and has recently been associated with the Frigidaire sales organization at Dayton.

Comfort, Convenience Rated Best Appeals For Window Displays

By R. M. Martin
Director of Display, Consolidated Gas Co. of New York

ONLY ten years ago the accepted gas company window display consisted of a miscellaneous assortment of gas stoves and placards, installed in the hope that enough people would look at the appliances to justify the porter's labors. Few people actually stopped, because such windows were uninviting and dull. In some cases the glass itself frequently needed cleaning. Show windows at that time—only ten years ago—were not considered a valuable advertising medium.

This curious condition was not necessarily the result of inertia. A few of the more progressive companies had tried artificial flowers, decorative screens and cloth drapes, but a gas range or a water heater with such parlor ornaments was as interesting as a percolator on a mantlepiece. It was one thing for a gas company to want to advertise in its windows, and quite another to find a way to do it properly. As a result most windows were neglected.

The Turning Point

About one year later a revolutionary thing happened in the gas industry. A large midwestern gas company enclosed its windows—permanent backs and roofs were built in, but the gas range still appeared with a bunch of roses and some puffed cloth. Their windows were undoubtedly as pretty from an advertising standpoint as a wax figure of the 1910 vintage. However, it was a start. It was, to the best of my knowledge, the first time that utility company windows had been considered as an advertising medium.

Gradually it became apparent that utility companies must create a definite type of window display advertising applicable to their own needs if their windows were to show a profit. This could not be done at once because none had a display department as we know it today. Fortunately for us—as well as for the utility companies—there never has been any problem that could not be solved.

The solution in this case, after some research and development, was an entirely new type of window display that appropriated many of the best elements of showmanship and periodical advertising. It was called window display advertising. The first examples were crude. Let it suffice to say, however, that a steady development followed until we arrived at a stage considered representative of today.

Two Strong Appeals

A gas company must sell service as exemplified by comfort and convenience. A woman looking in the utility windows does not realize that the gas range she sees is equipped with an oven heat regulator and an insulated oven. She cannot visualize the immediate hot water supply that will always be hers if she buys a gas water heater. The bare statement that a gas refrigerator will make ice from heat seems too ridiculous to believe. In each single case there must be something in the displays to assist her in forming a mental picture.

Don't forget that a gas company has very real competition. True, only one company in a locality is engaged in the manufacture of gas, but many fuels can be used for ranges, for water heaters, and for automatic refrigerators. Therefore, it is of the utmost importance that gas company windows create interest in, and a desire of possession for gas appliances. To do this requires the combined ingenuity of the idea man, the copy man, the artist and the letterer—rather than the employment of one or a hundred placards and price cards.

Preparing the Display

Incidentally, an endless chain of production in my own company is repeated every working day. By that I mean one complete display based on an entirely different sales appeal is produced every day for the windows of the Consolidated Gas Company. Meeting this schedule requires ten men and a duplex studio totaling in aggregate 6,500 square feet.

You may be interested in what utility companies think about pricing merchandise in show windows. This, of course, varies with the individual company. Here is my formula: Just as in a high-pressure, low-pressure, or any other kind of sales talk, feature price in your window only when you display merchandise that is to sell on a price basis. Ignore it completely when you show things that are selling at a price justified only by an understanding of their quality and workmanship—or in the case of utilities—by the comfort and convenience they render.

The main job of the window display is to translate fabrications of steel and metal into understandable, intimate every-day things such as warm baths without waiting; piping hot water for shaving; and perfect refrigeration without a sound. Remember that people want comfort and convenience. This is the job that utility windows must do.

MAJESTIC-CINCINNATI INCREASES DEALER FORCE

Cincinnati, Ohio—The Majestic Distributing Co. of Cincinnati, 1042 Gilbert Ave., has appointed the following dealers for Majestic electric refrigerators: Bell Furniture Co., 1211 Central Ave.; Buford Jewelry Co., 608 Vine St.; Bond Hill Hardware Co., 1225 California Ave.; Brown-Twenhofel Co., 815 Walnut St.; Campbell Service Co., 2514 Reading Road; Chubb and Steinborg Music Shop, 17 E. Sixth St.; Crown Furniture Co., 1739 Elm St.; Dixie Music Shop, 1510 Central Ave.; Dressler Music Shop, 2732 Woodburn Ave.; Golden Rule Electric Shop, 137 W. 7th St.; I. L. Greenwald, Inc., 901 Race St.

I. L. Greenwald, Inc., 4739 Main Ave.; Norwood, George P. Cross, 1324 Main St.; Cincinnati, George M. Hagen, 508 Findlay St.; Links Music and Radio Shop, 1711 Vine St.; Majestic Radio Mart, 3564 Montgomery Road; May, Stern and Co., L. Noelke, 955 McMillan St.; O. K. Radio Supply Co., 125 E. 12th St.; Park Radio Co., 3672 Erie Ave.

Price Hill Radio and Optical Co., 3637 Warsaw Ave.; Pushin Radio Co., 5909 Madison Road; Krauss Radio Stores, Inc., 4033 Hamilton Ave.; Krauss Radio Stores, Inc., 111 E. Fifth St.; Linwood Delta Tire Co., Linwood and Delta Ave.; Service Shop, 836 Clark St.; Sprague Brothers, 13 E. McMillan; Wm. Threm, Uptown Radio Shop, 68 E. McMicken Ave.; Williams-Markland, 643 Main St. Also Carlson Radio, 116 S. Wayne St., Lockland, O.; Charm Radio Shop, 2063 Beechmont Ave., Mt. Washington, O.; Gosney Tire and Radio Co., Inc., 709 Scott St., Covington, Ky.

Tommy Griffith, 4566 Main Ave., Norwood, Hauser's Service Station, Dixie Highway, Ft. Mitchell, Ky.; Carroll W. Iferd, 3951 Hazel Ave., Norwood; Kentucky Sales and Service Co., 10th and Saratoga St., Newport, Ky.; Leo G. Koelker, 235 Elm St., Ludlow, Ky.; Leugers Furniture Co., 5916 Vine St., Elmwood, O.; McCurdy Radio Shop, 1179 Harrison Ave, Cincinnati; Louis Marx and Bros., 840 Monmouth St., Newport, Ky. and 520 Madison Ave., Covington, Ky.; Northside Electric Co., 4231 Spring Grove Ave., Cincinnati;

Nott Heater Co., 40 Hamilton Ave., Cincinnati; Paul Electric Co., 115 Hartwell Ave., Hartwell, O.; Post Exchange, Ft. Thomas, Ky.; Oscar Rosen Radio Co., 540 Madison Ave., Covington, Ky.; Schuman Furniture Co., 106 Mill St., Lockland, Ohio; T. Sidney Smith, 400 Fairfield Ave., Belleview, Ky.; A. L. Tappe, 1762 Sherman Ave., Norwood, Ohio; I. L. Greenwald, Inc., 711 Madison Ave., Covington, Ky.

New ADDISON HOTEL

Featuring Comfort Quality and Service

450 ROOMS of REAL COMFORT

$2.00 A DAY

Special weekly and monthly rates

GARAGE IN CONNECTION

L. McGREGOR *Manager*

DETROIT

WOODWARD AT CHARLOTTE

KULAIR Electrical Refrigerating Products

Simplicity, quality, efficiency and capacity unequaled. A size for every use.

Today's Results To You Must Be Profitable

At no time in the past twenty years of history of Electrical Refrigeration Merchandising have such liberal and attractive policies been available until the advent of

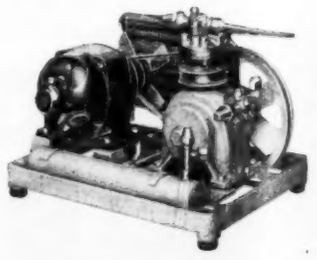
KULAIR

Who created entirely Standards of distribution with All sizes of compressors and condensing units for Methyl Chloride and Sulphur Dioxide.

The Important Enhancement

of Dealer and Retail customer confidence in Kulair clientele selling over private brands will benefit your distributing establishment.

IT IS FOR YOU TO PUT THIS PLAN TO WORK TODAY



KULAIR CORPORATION PHILADELPHIA, PA.

METALS CONGRESS TO STUDY NEW METHODS

San Francisco, Cal.—New methods and processes developed in metal working industries during the past two years will be discussed in the technical sessions of the various societies taking part in the National Western Metal Congress in the Civic Auditorium here Feb. 16 to 20.

Exhibitors will represent every phase of the production, selection, fabrication, inspection, treatment, welding, assembly, and use of metals.

Steel companies will show the different grades of raw stock; a machine tool shop with the latest and most improved tools connected up and operating will demonstrate the fabrication of raw metals; and heat-treating equipment will be shown in actual operation.

Inspection and testing equipment, material handling equipment, welding equipment, small tools and machinist supplies, nonferrous metals, castings, forgings, abrasives, refractories, ball-bearings, motors, oils, belting, rust-proofing, and many other applications of production methods of a metal fabricating plant will be shown.

The following engineering societies are co-operating in the preparation of special programs: American Chemical Society, American Institute of Electrical Engineers, American Institute of Mining and Metallurgical Engineers, American Society for Steel Treating, American Welding Society, National Purchasing Agents' Association, Institute of Metals, Pacific Coast Electrical Association, Pacific Coast Gas Association, Society of Automotive Engineers, American Society for Testing Materials, National Association of Power Engineers, and the American Society of Mechanical Engineers.

TESTING LABORATORY

A Laboratory Test often brings out many interesting comparisons.

Our Laboratory is thoroughly equipped for tests on refrigerators and refrigerating equipment.

Our service will assist you in your problems.

George B. Bright Co.

Refrigerating Engineers & Architects

2615—12th ST., DETROIT, MICH.

INCREASE Your INCOME AT HOME... In Spare Time!

New . . . Easy . . . Practical Home Training!

HERE'S good news for men who produce, sell or service electric refrigerating equipment! A marvelous new method now teaches you the vital principles and practices necessary for big returns! No study drudgery. Practical and fascinating. Complete, easy to grasp. Prepared by experts. Approved by leading manufacturers. Charts, diagrams, drawings help you learn quickly. Low cost, easy terms. Trained men available. Write today!

This Valuable **FREE BOOK** *Tells How!*

UTILITIES ENGINEERING INSTITUTE
4403 Sheridan Rd., Dept. 921, Chicago, Ill.

Testing Service

for Domestic and Commercial Electrical Refrigeration

Testing and experimental laboratory service for Manufacturer, Distributor, Central Station. Test data exclusive property of client.

ETL *Know by Test*

Electrical Testing Laboratories

80th St. & East End Ave. NEW YORK

"AN ADDRESS OF DISTINCTION"

You Get . . . So Much MORE

INTERNATIONALLY known . . . the habitual stopping place of world travelers . . . conveniently accessible to all Loop activities . . . foods of surpassing excellence. Spacious and smartly elegant rooms. Distinguished accommodations at remarkably reasonable cost. *Rates begin at $5 per day. Permanent Suites at Special Discounts.*

THE DRAKE HOTEL, CHICAGO

Under Blackstone Management

Weaver Discusses Uses of Copper

By F. E. Weaver
Vice President in Charge of Sales, The American Brass Co.

We look upon the remarkable development of the automatic refrigeration industry as one of the most outstanding and humanitarian achievements of modern progress.

The step from the experimental refrigeration of railroad cars to household and industrial refrigeration was, fortunately for the copper industry, made possible and rapid by the use of carefully manufactured copper tube coils. In addition, copper and copper alloys form an essential part of electrical and other parts entering into the manufacture of automatic refrigerators.

We feel a keen responsibility in carrying on consistent metallurgical and engineering investigations in our laboratories, planned and directed to be helpful to all our friends in the refrigeration industry.

While copper and copper alloys enter into a most diversified field of commercial uses, the writer knows of no manufacturing industry where future prospects are better or where the development is being more carefully and intelligently handled than in automatic refrigeration. Finished refrigeration units, as manufactured in the United States, already lead the world and undoubtedly will continue to do so.

TELEPHONE OFFICE BUYS WATER COOLING SYSTEM

Detroit, Mich.—The Copeland Detroit Branch has secured a contract from the Michigan Bell Telephone Company for the installation of water cooling equipment in the Benton Harbor Central Office. One Copeland X-1200 condensing unit will be installed together with a 100-gallon Spear Ice Water Generator.

This will make the ninth installation Copeland of Detroit has made for the state telephone company. Copeland equipment is already in operation in five Detroit offices as well as offices located at Port Huron, Holland and Grand Haven.

MAKERS OF SMALL OIL BURNERS TO ORGANIZE

Boston, Mass. — Manufacturers of small oil burners gathered at the Hotel Statler of this city on January 15 to formulate plans for an association of manufacturers of small burners. Present at the luncheon were representatives of the Lynn Products Co., Taft Oil Burner Co., Tower Manufacturing Co., Fowler Oil Burner Co., Alaska Freezer Co., Florence Stove Co., Bunsen Oil Burner Co., Quaker Manufacturing Co., Automatic Burner Corp., and the Silent Glow Oil Burner Corp.

FRIGIDAIRE APPOINTS PORTLAND DEALER

Portland, Ore. — Refrigeration Engineering Corp. has been named new commercial Frigidaire dealer in the metropolitan territory of Portland.

Associated with the new firm are C. C. Stout and Sons, formerly well-known chain druggists of Portland. R. H. Grant, formerly Frigidaire commercial supervisor, will be vice president and active general manager of the company.

Edward Stout will handle the apartment house sales, and Mr. Grant and eight salesmen will inaugurate an aggressive campaign for the fountain and restaurant business.

RIDDICK MOVES GENERAL OFFICES TO NEW ORLEANS

Jackson, Miss.—A. G. Riddick, Inc., distributor for General Electric in Mississippi and Louisiana, has moved its general offices to New Orleans.

The company has obtained a lease on a three-story building at 619 Baronne Street, New Orleans, which will be remodeled.

Branch offices will be maintained at Jackson and Shreveport, La., to supervise sales in their respective districts.

Coming:

A special section for production executives.

Attention Service Managers

When you need mechanics, installers and servicemen—men practically trained in Electric Refrigeration work—call on us. We can furnish qualified graduates to meet your specifications. No charge to you or to them. Write, wire or phone.

THE NATIONAL TECH

Where men learn by doing—not by correspondence

902 Ulmer Bldg., Cleveland, Ohio

HOUSEKEEPING SHOP CHANGES HANDS

Lansing, Mich.—The Majestic Housekeeping Shop, 129 East Kalamazoo St., recently established by R. G. Nichols, to handle Majestic radios and electric refrigerators has been purchased by I. E Carr, who for several years has been active in the distribution of Majestic products with the Detroit Majestic Products Corporation, formerly the Detroit Electric Co. He has been manager of the Detroit wholesale branch for the past five years.

Metal Stampings

Unit Bases and Guards

Household Refrigerator Metal Panels—Exterior or Inside Panels and Food Compartments.

Louvered Panels—Special Trays or Panels—Water Cooler Panels.

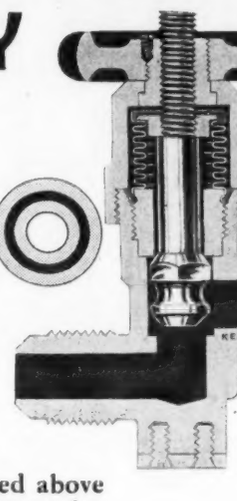
MOTORS METAL MFG. CO.

5936 MILFORD AVE. DETROIT, MICH.

Bellows Packless

2-WAY VALVES

KEROTEST



Number of threads exposed above handwheel indicates distance valve is open . . . Eight convolution bellows designed to be in its normal free length when valve is in open position, eliminating tension...Stem is of non-corrosive hard bronze rod . . . Metal to metal back seat is made when valve is in full open position . . . Hexagon head on stem fitted into hollow hexagon chamber in valve body—eliminates torsional strain on bellows or soldered joints . . . Holes in mounting flange accessible for attachment to knockout box. Write for descriptive bulletin.

KEROTEST MANUFACTURING COMPANY

PITTSBURGH, PA.

KEROTEST KEROTEST

hear ye!

the same cry as of yore

"black steel sheets do not offer the rust-resisting qualities that are essential—and while it has been proven that zinc is the best protective coating for black steel sheets, paints, lacquers or enamels do not adhere satisfactorily to a galvanized sheet."

the term "galvanized" is applied to a zinc, or what is commonly called spelter, coated sheet. This coating contains certain elements that prevent the applied finishes from properly bonding.

referring to refrigerator *and* ice cream cabinets

where condensation is prevalent a ***rust-resisting spelter coated*** sheet metal to which the finish will ***securely bond*** is most practical.

Superior "Super-Metal" PATENTED PROCESS

for the finest cabinets

Super-Metal is made from a special analysis, copper content steel and coated with prime spelter and alloys. After the sheet is coated it is HEAT-TREATED which thoroughly amalgamates the coating with the base metal and destroys the elements that prevent the finishes from bonding.

Superior *Galvannealed*—While slightly lower priced this sheet has met the requirements of some of the best known manufacturers of refrigerating units and metal cabinets. It is a heat-treated sheet similar in many respects to Super-Metal. Both sheets can be furnished stretcher leveled. Sheets are ductile and resist flaking or peeling under the most difficult forming.

Superior Galvannealed PATENTED PROCESS

The Superior Sheet Steel Co.

Division of Continental Steel Corp.

Canton, Ohio

Manufacturers of Black, Galvanized, and Long-terne Sheets

PLUMBING CO. HAS LARGE DEALER STAFF

Detroit.—The first wholesale plumbing house here to handle electric refrigeration. A. Harvey's Sons Mfg. Co., reports good progress as a Copeland distributor.

Some four years ago this firm decided that its dealers could profitably combine electric refrigeration with plumbing and heating. Today, the majority of Harvey authorized dealers, numbering 478 in all, handle Copeland.

Officials of the company attribute their success in the electric refrigeration field to the methods employed in educating the dealers. From the first, Harvey's offered free training. Dealers were shown how to install and service Copeland electric refrigeration. Also at the regular meetings of the dealer organization practical advice was given on electric refrigeration sales problems.

All the time payment details are handled by the distributor, thus relieving the dealer of any financial burden in connection with making Copeland sales on a credit basis.

To support its dealers still further, Harvey's devoted a large showroom in its building to a display of the complete Copeland line. This display is open to the general public and dealers are able to bring their customers to see all the latest Copeland models. Women's clubs are also invited from time to time to witness Copeland demonstrations. Prospects discovered at this display room are promptly turned over to the dealers.

Although up to the present time Harvey's dealers have concentrated on domestic installations, they expect to go into the commercial field before long.

ELLIOTT-LEWIS ENTERS REFRIGERATION FIELD

Philadelphia, Pa.—The Elliott-Lewis Electrical Co., Inc., is now the distributor for Copeland in eastern Pennsylvania, southern New Jersey, and all of Delaware.

The Elliott-Lewis Company occupies its own building, with six floors and basement containing 30,000 square feet of space, located at 1017 Race Street. It numbers more than 70 employees.

Frank R. Elliott is president; T. Harry Lewis, vice-president and treasurer; and C. A. Dougherty, secretary and general manager. Frank Brown is store manager.

WESTINGHOUSE HOLDS SERVICE SCHOOL

Mansfield, Ohio—The first Westinghouse refrigerator national service school of 1931 was conducted at the Mansfield plant Jan. 15 to 17, inclusive. Representatives from all Westinghouse refrigerator distributors attended.

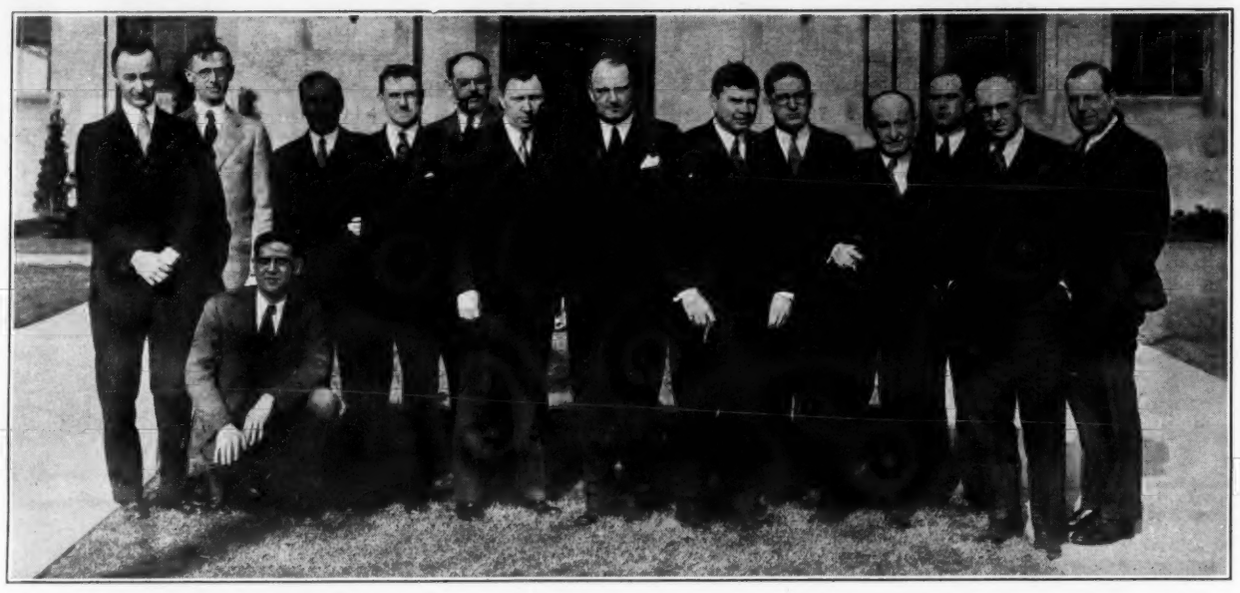
The school was conducted by L. K. Baxter, service manager of the refrigeration department, assisted by field service representatives K. K. Gordon, E. B. Arnold, J. A. Vassar, H. J. Hughes, H. E. Myers, and R. B. Lewis.

A banquet was held at the Mansfield-Leland Hotel, at which time the following slogan was adopted for the Westinghouse refrigeration service departments: "Maintain Customers' Good Will."

BINDER JOINS STAFF

Trenton, N. J.—Thomas W. Binder of this city, a former salesman of the Edison radio for the Girard Phonograph Co., has been appointed to the sales force of the State Distributors of Newark, and will devote his time to selling the Servel Hermetic refrigerator.

Eastern Utility Men Visit Detroit



REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Chillo Refrigerator

Query No. 409—"I am trying to locate a company from which we can secure repair parts for a domestic 'Chillo' electric refrigerator manufactured in Chicago some five or six years ago."

Service Companies

Query No. 410—"We would like to obtain a list of refrigeration service companies throughout the country which are able to service any make of machine. We are, at this time, particularly interested in locating such service companies in middle western towns of 100,000 population and over."

Replies to Previous Queries

Query No. 405—The M. & S. Metal Products Co., 249 Varet St., Brooklyn, N. Y., writes, "We supply Monel metal tops, metal and hard rubber lids, panels, and all cabinet parts for ice cream cabinets, also the cabinets."

W. F. DORFLINGER WITH DETROIT DISTRIBUTOR

Detroit, Mich.—William F. Dorflinger, Jr., who has been heading the water cooler division of Rex Cole's commercial department, has recently joined Caswell-Stull, Inc., newly appointed General Electric refrigerator distributor in Detroit.

Dorflinger will become assistant to S. C Caswell. While with Rex Cole, Inc., Dorflinger served as sales director in Manhattan and the Bronx as commercial representative, and as leader of the Manhattan retail commercial division.

SPRINGFIELD CO. CHANGES SALES SETUP

Springfield, Ill.—The Capital City Paper Co., Fourth and Madison Sts., has discontinued the distribution of the Electrolux refrigerator, and is now concentrating on sales of Servel electric refrigerators.

KELVINATOR HEADS HOLD SESSION WITH VISITORS

Detroit, Mich.—Headed by B. M. Fast, who is in charge of merchandising, and A. E. Ward, campaign manager, a party of Associated Gas & Electric System executives recently visited the plant of Kelvinator Sales Corp. Business sessions were held to determine merchandising arrangements for this year.

The Associated Gas & Electric System last year conducted a campaign throughout its properties that resulted in the merchandising of 19,306 electric refrigerators.

In the group pictured here are (left to right): E. Leier; J. P. Kaftenkamp, assistant to the president, Rochester Gas & Electric Corp., Rochester, N. Y.; F. Haefer, assistant merchandise manager, Empire Gas & Electric Co., Geneva, N. Y., and W. G. Keay, new business manager, New England Gas and Electric Association, Cambridge, Mass.

W. G. Burrill, new business manager, Staten Island Edison Corp., St. George, Staten Island, N. Y.; H. G. Perkins, assistant to the president, Kelvinator, Detroit; B. M. Fast; H. W. Burritt, vice-president in charge of sales, Kelvinator, Detroit; A. E. Ward, and J. S. Sayre, Kelvinator sales manager, Detroit.

H. L. Coleman, new business manager, Empire Gas & Electric Corp., Geneva, N. Y.; C. R. Rudy, new business manager, Elmira and Binghamton Groups, Associated Gas & Electric System; F. M. Houston, merchandise manager, Rochester Gas & Electric Co., Rochester, N. Y., and R. I. Petrie, Kelvinator regional manager.

LIPMAN EQUIPS DAIRY IN KANSAS CITY

Kansas City, Mo.—The General Refrigeration Company here recently installed an ice-cream hardening room for the Carl F. Atwood Ice Cream Co., 640 Reynolds Ave.

The room has 8-inch cork insulated walls and has a capacity of 1,000 gals. of ice cream. A Lipman Model 1110 machine keeps this cooler at a temperature of 10 deg. below zero.

The Lipman distributor has also installed two display counters and an 8x12x9 cooler for Buehler's Meat Market. A Lipman 210 machine was installed.

PLANT PURCHASES 54 WATER COOLERS

Biddeford, Me.—The Pepperell Manufacturing Company in this city has installed throughout its factory 54 electric water coolers manufactured by the General Electric Company.

The coolers, 39 DP-3s and 15 DP-1s, were sold through the efforts of Roy E. Holden of the Cumberland County Power & Light Company, dealers for Gould-Farmer, distributors of General Electric refrigerators. An S-42 refrigerator also was included in the order.

DOMESTIC POWER BILL INCREASES

Portland, Ore.—V. H. Moon, sales manager of Pacific Power & Light Co., gave the keynote address at the three-day sales conference recently held by his company here.

In the 17 districts served by Mr. Moon's organization it was found that in 1930 each home in the district averaged 1,170 kilowatt hours at a cost of 3.27 cents a unit. In 1920, the average power consumption per home was 322 kilowatt hours.

EVANSVILLE DEALER MOVES

Evansville, Ind.—The Stahlschmidt Piano Co., Frigidaire dealer, has moved its offices from 618 Main St. to 15 Southeast Fourth St. A. J. Willlom is manager.

DIRECTORY CORRECTIONS

Printed below are corrections and additions to the annual catalog and directory, which appeared in the "Pink Section" of the Jan. 14 issue of Electric Refrigeration News.

Belts

Globe Rubber & Tire Co., Inc.
(Rubber V Type Belts)
Prospect & Globe Sts., Trenton, N. J.

Bakelite Products

National Vulcanized Fibre Co.
Wilmington, Del.

Coils and Bends

Remple Co.
(Pipe Coils and Bends)
340 N. Sacramento Blvd., Chicago, Ill.

Commercial Electric Refrigerating Machines

Keokuk Refrigeratting Co.
Keokuk, Iowa

Fibre Products

National Vulcanized Fibre Co.
(Vulcanized Fibre in Sheets, Tubes and Special Shapes)
Wilmington, Del.

Insulation

The Wood Fibre Board Corp.
(All-Wood Insulating Board)
180 N. Michigan Ave., Chicago, Ill.

Machine Specifications

Keokuk Refrigerating Co.
Keokuk, Iowa.
Also manufacture 21 types and sizes of direct expansion, copper fin type coils for standard commercial equipment and special designs as required for single or multiple applications. American Radiator valves used on multiple applications.

BALTIMORE DISTRIBUTOR SPLITS DEPARTMENTS

Baltimore, Md.—The Eisenbrandt Radio Co., Inc., Paca and Pratt Streets, distributor, has separated radio and refrigeration into two divisions, and each will operate distinctly. The concern handles the Majestic products.

H. Wilson Yeager, under the new arrangement, will have complete charge of electric refrigeration. Mr. Yeager's assistants will be W. M. Armiger, who has charge of Majestic refrigeration activities in the Baltimore territory; Bryan Travis, on the Eastern Shore; V. S. Taylor will cover western Maryland, Virginia and West Virginia, and O. C. Dorian is the refrigeration representative in Washington, D. C.

CAT AND FIDDLE BUYS LARGE CABINET

Kansas City, Mo.—The Cat and Fiddle, a popular restaurant here, near 26th and Broadway, is being converted into a cafeteria.

Glueck & Co., through Mr. Evans of the commercial department, recently placed a General Electric CS 601 behind the service counter. This refrigerator will hold in reserve salads and other chilled food to be used in replenishing the counter.

WILLIAMS, HART TAKE NEW POSITIONS

Birmingham, Ala.—M. L. Williams has taken over his duties as manager of the refrigeration department of Pizitz, distributor here for Servel. He succeeds Jess Johnson.

C. Y. Hart, formerly with Domestic Electric Co., Frigidaire distributor, has been appointed assistant manager.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

POSITIONS AVAILABLE

WANTED experienced refrigerating sales engineers to sell Frick Ammonia and CO_2 refrigerating machinery from one-half to thirty tons; also Servel commercial line in Pittsburgh district. Must be capable of making estimates, layouts, and specifications for dairies, ice cream plants, packing houses, markets, etc. In reply give experience, age, married or single. Good salary and commission to right man. Box No. 304.

SALESMAN on Kelvinator with complete knowledge of commercial iine, able to handle domestic also. Salary and commission. Write fully. Kelvinator-Miami, Inc., Miami, Fla.

POSITIONS WANTED

COMMERCIAL and domestic sales engineer available immediately, can budget, organize and direct sales and service profitably. Prefer distributor or dealer outlet. Your proposition must be good. Go anywhere. Experienced Servel, Kelvinator, Frigidaire and Electrolux. Will furnish proof that I can make you more net profit from the refrigerator business than you are getting. Box No. 305.

REFRIGERATION machine designer seeks new connection in broader field in the manufacture of units for refrigerated automobile truck or railroad car installation. Also experienced in gasoline engine and electric motor design incidental to such units. Capable of shouldering responsibility. Box No. 312.

REFRIGERATION engineer desires connection with manufacturer. Six years of experience in designing and developing successful refrigeration unit. Willing to locate in any part of country. Box 315.

SERVEL service man, 26 years of age, woud like connection with reputable company as service man or service manager. Can also service all other makes of machines or ammonia plants, available March 1 to 15. Get in touch with me at once, explain offer fully. Good reference. Box 314.

MECHANICAL engineer available. Thoroughly experienced refrigeration engineer with background of manufacturing and sales experience. Competent to supervise experimental work, and direct service. Able to apply a thorough knowledge of the requirements in this field today to developing or perfecting refrigerating apparatus and backing it up with a sound service policy. Box No. 307.

APARTMENT House Sales Engineer, two years present position, offers his services to distibutor in lucrative field. Will go to any part of country. Drawing account and overwriting basis. Best of references from present and past employers, who know of this advertisement. Box 316.

DISTRIBUTORSHIP WANTED

WELL financed organization experienced in the refrigeration field wants greater New York, or Bronx only, distributorship for reliable apartment house model refrigerator to be sold wholesale to builders and apartment house owners. Must be within all competitive prices. P. F. Thau, 2247 White Plains Ave., New York, N. Y. Estabrook 3592.

Artic
REG. U.S. PAT. OFF.
(METHYL CHLORIDE)
IDEAL REFRIGERANT
FOR
Ice Cream and Dairy Products
Send for Bulletin 274 giving properties and performance data of Artic
The ROESSLER & HASSLACHER CHEMICAL COMPANY
Incorporated
10 E. 40th Street, New York, N. Y.

Brighten up your dull months!

Are you looking for something to add to your line—a home specialty which will bring in money when refrigerator sales are at the low point—a device in no way competitive with refrigerators yet similar in selling method, market, installation? Then write for our liberal distributor proposition on Thermo-King, an admirably simple, efficient, time-tested thermostatic control for hand-fired and automatic home-heating with coal. Other refrigerator distributors have filled out the valleys in their yearly sales curves with Thermo-King. You can, too.

Write today for information

HEAT CONTROL CORPORATION
Hatfield, Mass.

REFRIGERATION RUBBER WARE

Door and Frame Insulating Strips. Gliders for Refrigerator Legs. Top Hole Sections, Lid Collars, Sleeves, Brine Hole Stoppers for Ice Cream Cabinets, etc. Specializing in Parts Made to Customer's Design.

THE AETNA RUBBER CO.
ASHTABULA, OHIO

SUBSCRIPTION ORDER

Electric Refrigeration News
550 Maccabees Building
Detroit, Michigan 1931

Gentlemen: Please enter my subscription to ELECTRIC REFRIGERATION NEWS.

United States and Possessions: ☐ $2.00 per year ☐ Three years for $5.00
All other Countries: ☐ $2.25 per year ☐ Two years for $4.00
Refrigerated Food Section only $1.00 per year.

I am enclosing payment in the form of ☐ Check ☐ P. O. Order ☐ Cash

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2-11-31

Refrigerated Food Section

In Two Parts—Part 2

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
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DETROIT, MICHIGAN, FEBRUARY 11, 1931

Entered as second class matter Aug 1, 1927, at Detroit, Mich.

FIFTEEN CENTS PER COPY
TWO DOLLARS PER YEAR

NATIONAL FROZEN FOOD ASSOCIATION BORN IN ATLANTA

Stuckey Elected President of New Low Temperature Organization

Atlanta, Ga.—Representatives of practically every group interested in the development of frozen foods moved to organize the Frozen Foods Association of America on January 17 in the Ansley Hotel of this city. Approximately 100 men from all parts of the country assisted in the naming of officers, and the adoption of the constitution.

The organization is the culmination of about three months of work, chiefly by the co-operators in the frozen food experiments conducted by the Georgia Experiment Station.

C. T. Baker, chairman of the committee on organization, presided over the meeting. The committee also included W. W. L. Graefe and V. O. Bodenheimer.

Dr. M. L. Brittain, president of the Georgia School of Technology, was the first speaker.

W. R. Tucker, agricultural industrial agent of the A. B. & C. R. R. who has been active in the quick-freezing of peaches, spoke next, prophesying a bright future for frozen foods.

At the meeting the following officers were elected: president, H. P. Stuckey, director of the Georgia Experiment Station; vice-presidents, A. W. Luhrs, chief engineer of the Paperboard Industries, New York, W. T. Comer of the Crystal Carbonia Co., and W. R. Tucker, representing the Georgia peach freezing interests and the railroads.

Twelve of the 18 directors who were elected include: Prof. J. G. Woodruff of the Georgia Experiment Station; E. L. Rhoades of the University of Chicago; O. O. Mills of the Fruit Growers Express Co.; A. D. Jones of the Georgia Department of Agriculture; Dr. E. G. Ballenger of the Polar Products, Inc.; C. P. Goree, Jr. assistant sales manager of the Frick Co.; Clark Howell, Jr., business manager of the Atlanta *Constitution;* R. G. Geeslin of Armour & Co.; R. D. Ballantyne of the United Cork Companies; C. C. Street, manager of Frozen Foods, Inc.; Fred A. Wolleben of the Georgia peach freezing interests; R. G. Gordon of the Atlantic Ice & Coal Corp.; and W. H. Caldwell of the Georgia Ice Manufacturers' Association.

Mr. Baker was nominated for secretary-treasurer of the association. The organization is complete with the exception of 7 more vice-presidents and 8 directors who will be elected by the skeleton executive committee.

The first official meeting of the newly formed organization was opened that

(Concluded on Page 7, Column 1)

GENERAL FOODS EXPERTS WILL STUDY VIOLET RAY

New York, N. Y.—General development laboratories to study the various advantages of selective irradiation will be established at the University of Cincinnati, according to recent announcement. The project will be financed by the General Foods Corporation.

With these rays under proper control, it is said, bacteria can be killed so as to preserve foods, and the action of enzymes stilled so as to stop the ripening process.

Professor George Sperti has succeeded in breaking down ultra violet rays so that their various forms can be used to produce and control qualities in foods.

The new laboratory will be concerned with determining the various properties of the rays and translating them into practical merchandising uses.

BOHACK ANNOUNCES SALES INCREASE IN 1930

New York City.—Sales of the H. C. Bohack Co., Inc., increased $4,005,545, or 15.09 per cent, during the 11 months of 1930 over the same period of 1929, according to a recent announcement by F. L. Parsloe, comptroller. December, 1930, sales were 21.9 per cent higher than the sales of December, 1931.

Eating Ice Cream For Health and Beauty

Pretty Members of the Detroit Creamery Co. Force Have One on the House.

GREENVILLE MARKETS KEEP MEAT CHEAPLY

Greenville, Mich.—Every butcher save one in this small Michigan community uses electric refrigeration to preserve his meats, and that one plans to install a complete system this spring.

Perk's Cash Market, the sole butcher shop which still uses ice, has a cabinet made by a local carpenter. The proprietor plans to retain this cabinet when he installs his refrigerating machine; but the experience of his competitors has convinced him that he shouldn't wait much longer to install electric refrigeration.

A Frigidaire compressor cools a Scherer cabinet in E. A. Van Wormer's "Table Luxuries" store in Greenville. The only trouble this store has ever encountered with electric refrigeration came six weeks after the installation, when the temperature in the cabinet became altogether too high.

A service man found the trouble readily—the coils had not been defrosted. The common assumption had been made that the more frost the machine acquired, the better it would refrigerate.

"We have noticed scarcely any difference in the electric bill since making the shift from ice," says Mr. Van Wormer.

At the Gates Bros. I. G. A. store a Frigidaire machine is hooked up to a Cincinnati Butcher's Supply Co. case. According to both the brothers, the upkeep on this refrigeration combination is less than one-fifth of the amount they used to spend for ice.

Their monthly ice bill used to range from $40 to $45. Nowadays, with electric refrigeration, they expend only eight dollars per month to preserve their meats and other perishables, and get much more satisfactory results.

A Gibson commercial cabinet has been on duty constantly for the last two years at the Banner Meat Market. It is refrigerated by a Sterling ammonia machine, which also keeps cold the walk-in cooler. The owners report themselves as very well satisfied.

At the farmer's produce exchange, where milk, butter, and eggs arrive daily from the surrounding countryside, a large Frigidaire household job is on duty. At one time Frigidaires were sold at this exchange.

SWIFT SUCCEEDS SWIFT

Chicago, Ill.—Gustavus F. Swift has been elected president of Swift & Co. to succeed Louis F. Swift, who becomes chairman of the board. Louis F. Swift had been president since 1903.

Dairy Co. Trains Soda Fountain Operators

Detroit, Mich.—Appreciation of the human element in the profitable operation of soda fountains moved the Detroit Creamery Co., large ice cream manufacturer of this city, to found a merchandising school for soda clerks of their dealers, say company officials.

Since the school was started in June, 1929, its activities have increased, so that now its winter attendance ranges about 15 per day, and its summer daily enrollment averages about 30. One day 65 students came for instruction.

Officials of the Detroit Creamery Co. feel that their own operations are directly predicated upon the success of their dealers. Accordingly, one of the aims of the school is to teach soda

(Concluded on Page 2, Column 1)

HUDSON VALLEY GROWERS REFRIGERATE APPLE CROP

By Fred Russell

Poughkeepsie, N. Y.—Hudson Valley fruit growers, doing an annual business of $6,000,000, are fast recognizing the advantages of keeping fruit fresh through electric refrigeration.

Growers are finding that refrigeration not only keeps their apples crisp and sweet during the storage period, but allows them to hold the fruit several months longer.

With the entering of electric refrigeration into the apple industry, methods of storage have changed. The old-fashioned barrel has given way to the square crate which allows more storage space and permits circulation of air through the fruit.

Coolers averaging 36 ft. x 14 ft. x 12 ft. high have a capacity of between 500 and 1,000 crates of apples. These coolers are equipped with 4 or 5 one and one-half horsepower compressors.

T. G. LEE NAMED PRESIDENT OF ARMOUR; PHILIP ARMOUR RESIGNS

Chicago, Ill.—T. George Lee has been elected president of Armour & Co. to succeed the late F. Edson White. Philip D. Armour, first vice-president, and a grandson of P. D. Armour, the founder of the company, has resigned.

The resignation of Mr. Armour severs the last executive connection between the Armour family and the company.

DISPLAY CASES HELP SALES OF ICE CREAM

Grand Rapids, Mich.—If the mountain will not come to Mahomet, Mahomet will go to the mountain. The Grand Rapids Cabinet Co. of this city has designed and built several varieties of low temperature display cases during the past few months, hoping that the merchandising of quick-frozen foods—over which such a furore has been created recently—would open up a vast market for these cases.

For a number of complicated reasons, however, the demand for frozen food cases has not yet arisen. The Grand Rapids Cabinet Co. hasn't waited for somebody to come to their offices and place an order, but has gone out and developed a hitherto unexploited market for low-temperature cabinets among ice cream merchandisers.

Ice cream sales, maintains this company, have been greatly handicapped because this food has always been sold "sight unseen." Display has helped the sale of bakery goods, candy, meats, and all kinds of groceries. Why shouldn't ice cream have the same advantage?

Working on this theme, the Grand Rapids Cabinet Co. has prepared an extensive advertising campaign to be circulated among ice cream distributors.

One of the particular points of merit about the use of low-temperature display cases by ice cream merchants, declares W. L. Malloy, sales manager of Grand Rapids Cabinet Co., is the fact that ice cream in fancy molds—a product for which the demand hitherto has been hesitant—can now be displayed temptingly before the eyes of the prospective customer.

At zero temperatures ice cream turkeys, pumpkins, football players and soldier boys will hold their colors and shapes for any reasonable length of time.

Abbott's, famous ice cream merchandisers in Philadelphia, now have both the top-display self-serve type and the closed-section display type of low-temperature case put out by the Grand Rapids concern, according to Mr. Malloy.

"The demand for low temperature cases is liable to develop suddenly," asserts Mr. Malloy. "Cabinets for quick-frozen foods, in my opinion, will be marketed through the packers."

DODD JOINS KROGER

Cincinnati, Ohio.—A. E. Dodd, formerly assistant to the president of Sears, Roebuck & Co., has become assistant to Albert H. Morrill, president of Kroger Grocery & Baking Co.

McCRAY SUPPORTS NEW MOVEMENT IN FOOD STORES

Co-ordinated Refrigeration Equipment Designed for Independents

By George F. Taubeneck

Kendallville, Ind.—The biggest development in commercial food refrigeration today, in the opinion of officials of the McCray Refrigerator Corp., is the co-ordinated food store.

"A department store in foods" is what R. J. Rehwinkel, McCray advertising manager, terms it. And Chief Engineer Hopkins adds that it is the answer of the smart independent food merchant to the chain store.

The co-ordinated food store is not a grocery, nor a meat market, nor a bakery, nor a delicatessen, nor a confectionery, but a combination of all seven, plus a few extras.

It is designed to furnish the family buyer with everything needed in the way of food supplies, and to save distribution costs by cutting overhead and by consolidating clerking and delivery expenses.

Adequate advertising, intelligent buying, and efficient operation all are big factors in the success of the "food department store." Still another important factor is the planning and design of the store. And here is where refrigeration enters.

According to Mr. Hopkins, his engineering department is now working furiously to draw up plans for co-ordinated refrigeration in a number of "food department stores" which are now in the process of development.

The proper places for the various display cases, the position of the walk-in cooler, the placement of wall-type cabinets, and the connection of the refrigerating machinery to the various well-distributed cabinets are all among the major problems presented by these food store projects.

In designing these stores the men who are planning co-ordinated refrigeration must also consider buying habits. Great possibilities exist, declares Mr. Hopkins, in the placing of cabinets in a sequence of positions that will draw the customer from one exhibit to another.

The manufacture of matched equipment for these large food stores requires a return to a great many hand-labor operations, states Mr. Hopkins.

Nailing of the oak and spruce, which are the chief materials of these cabinets (McCray men believe in wood—they use more than eight million feet of lumber annually), is now done by hand, rather than by machine. Other operations, likewise.

Monel metal trim is used on the display cases, while interior metal parts are made of rust-resisting Toncan-metal or Armco iron. Bronze hardware completes the list of metal products used.

Designs and finishes of all the refrigerator cabinets for these food stores are, of course, completely matched.

SERVEL DEVELOPS METHYL CHLORIDE SODA FOUNTAIN

Evansville, Ind.—An ice cream soda fountain refrigerated by a methyl chloride dry system has just been developed by Servel engineers, according to W. D. Collins, chief engineer of Servel, Inc.

This refrigerating system will produce three different temperatures in the soda fountain: 42° F. for the drinking water and carbonated water, 0° to 5° F. for the ice cream, and 47° for the syrups.

One set of coils cools both the drinking water and carbonated water. This feat is accomplished by the simple trick of placing a tank within a tank. Water in the external tank cools the water in the internal tank.

TOLEDO FOOD MERCHANTS PLAN MODEL STORE

Toledo, Ohio.—A permanent model store in which manufacturers may lease space is being planned by the Grocers' and Butchers' Association of this city. Two floors in a new building at 121 North Erie street will be used for the association's activities.

DAIRY TRAINS SODA FOUNTAIN EMPLOYES

(*Concluded from Page 1, Column 3*)

fountain dispensers how to operate their fountains most profitably.

They are shown how to determine costs of drinks and ice cream concoctions, and how gross profits are found. They are taught how to make tasteful preparations without wasting ingredients.

Stress is laid on personal cleanliness, and the importance of keeping their fountains sanitary and attractive. They are also shown how to operate the fountain equipment properly, and taught enough about the machinery itself so that they can operate the system most efficiently.

With merchandising surveys indicating that 62 out of every 100 drug store customers enter the drug store for the express purpose of patronizing the soda fountain, drug store owners are realizing the importance of having their fountain clerks well trained, courteous, tactful, and clean, the Detroit Creamery officials say.

Unless they are favorably impressed at the fountain, this group of people will not be inclined to buy other commodities, they say, and often very profitable business may be lost.

With this in mind, O. V. Rall, director of the school, and William Spitler, his assistant, are teaching the principles of successful salesmanship, the necessity of being attentive, friendly, and courteous, and how to stimulate fountain customers to patronize other departments of the store.

Only well-trained, capable employees will reflect a friendly store policy, Mr. Rall pointed out, and one of the main aims of the school is to educate fountain clerks to feel an individual importance in the success of the store in which they work.

Dealer customers of the Detroit Creamery have been enthusiastic about the school, according to Mr. Rall, some of them requiring all of their clerks to attend.

The recommended course of instruction is every morning for one week, and the fact that some students do not take all of their lessons in succession does not impair the value of the instruction, they believe.

"We are not only rendering our dealers and ourselves a benefit, but the ultimate consumer is also favored by receiving a better and more intelligent service, and a better food product," he concluded.

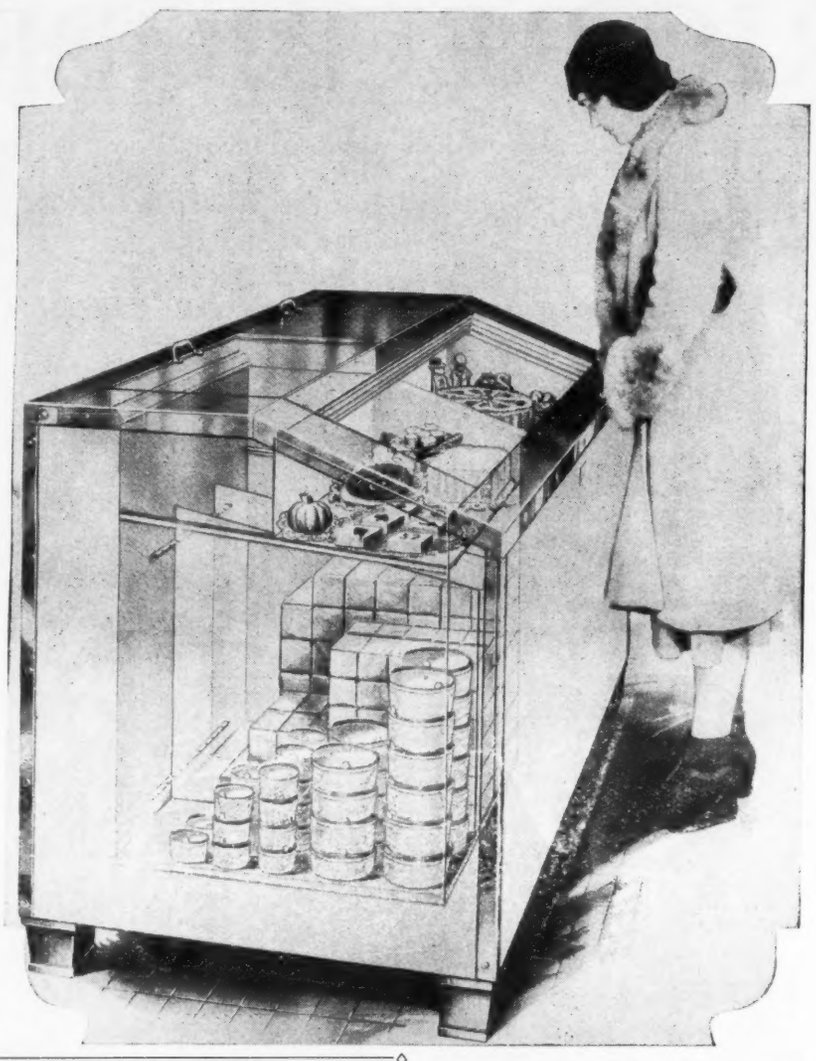
New Refrigeration Uses Reported

Detroit, Mich.—Reports from refrigerator manufacturers indicate the wide variety of industrial applications of electric refrigeration. The Japanese silkworm industry uses refrigeration to control the development of silkworms, according to K. E. Tobin, commercial supervisor for Copeland Sales Co. of Detroit.

Refrigerated booths keep the silkworms inactive until the establishments are ready to assimilate a crop in their process. The worms are then removed, heated, and allowed to germinate.

One firm mentions the use of a refrigerated cabinet to treat non-shatterable glass at different temperatures between chemical processes. In another place the performance of automobile carburetors is tested at different temperatures corresponding to various conditions of winter driving. Commercial photographers are also using electric refrigeration in their development processes.

New Ice Cream Display Case



For displaying packaged ice cream, also fancy ice cream, the Grand Rapids Cabinet Co. has designed this low temperature case.

KENDALLVILLE FOOD SHOPS SAVE MONEY

Kendallville, Ind.—Inasmuch as this small town is largely dependent upon the McCray Refrigerator Co., aided and abetted by a factory which makes farm windmills, any food merchant here who doesn't keep his perishables in a McCray refrigerated cabinet may find his trade wandering away.

The town butchers, as well as the consumers, are 100% sold on the necessity for proper refrigeration.

To begin with, J. C. Vanderbur has four McCray commercial cases in his meat market. A brine system, powered by a York refrigerating machine, does the cooling. For six years this system has worked without serious trouble, claims Mr. Vanderbur. His savings are real and appreciable, he states.

The Hossinger brothers, who own the City Meat Market, have three McCray cabinets and a walk-in cooler hooked to a Sterling ammonia machine.

One complaint, and only one, have the brothers. The hook-up makes it necessary to bring the temperature of the walk-in cooler down lower than is needed in order to get the temperature in the display cases right.

Four McCray display cases, refrigerated by a Baker ice machine, are on duty at the Central Meat Market. In addition, a glass-enclosed display window in the front of this butcher shop contains two Frigidaire coils, connected with a ½ hp. compressor.

Although this large display window is insulated only by glass and the supporting framework, the coils keep a large quantity of meat on display properly refrigerated. Twenty dollars a month is the maximum bill for this market, and the proprietor maintains it used to cost him that much a week to keep lesser quantities of meat cool.

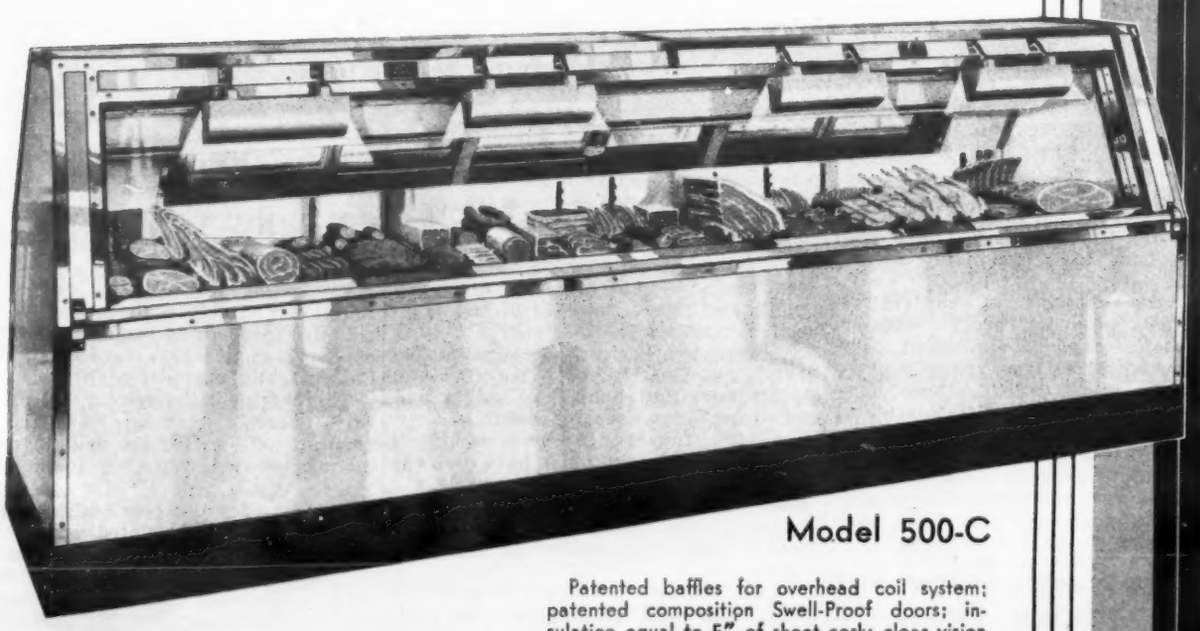
At the Kroger store in Kendallville two fairly new McCray display cases are refrigerated by a ½ hp. Frigidaire compressor, while a 1½ hp. Frigidaire refrigerating unit is hooked up to the large cooler.

DON'T GAMBLE!

The HILL Dry-Cold

Be careful how you spend your dollars! More and more those who formerly bought cases at lower prices are now turning to Hill—why? because they have held to their basic principles to build and serve the best. C. V. Hill & Co., Inc., have an earnest purpose—to make every case so perfect that it inevitably will make a good friend. It is not necessary to GUESS or GAMBLE when purchasing refrigerator equipment—the facts can easily be known—

WRITE TODAY FOR ILLUSTRATED BOOKLET.



Model 500-C

Patented baffles for overhead coil system; patented composition Swell-Proof doors; insulation equal to 5" of sheet cork; clear vision guaranteed between glass; adjustable display shelf; new sanitary hardware. Carried in stock.

C. V. HILL & CO., Inc.

Trenton New Jersey

Domestic Ice Cream Freezer Designed

Los Angeles, Cal.—Manufacturing of ice cream in automatic household refrigerators is one of the chief functions of a device designed by George J. Smith, 3035 Buckingham Road, for hook-up with conventional types of refrigerating systems.

The Automatic Ice Cream Agitator, as Mr. Smith calls it, is applicable to both the hermetic and non-hermetic types of systems. For the hermetic and absorption machines, an auxiliary motor provides the power for mixing the ice cream. In self-contained units, a power take-off is attached to the fly wheel.

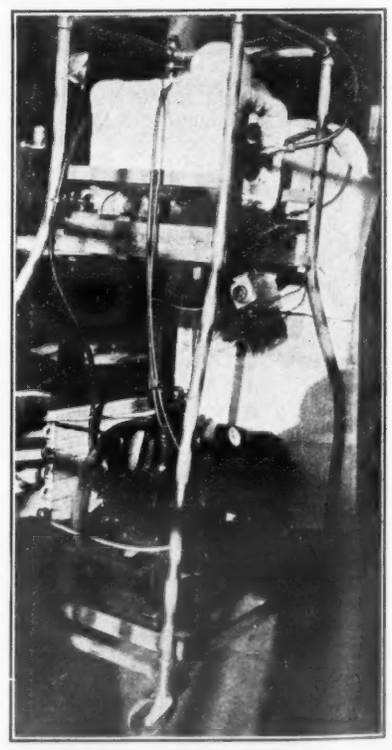
The equipment for mixing and freezing the ice cream fits into the tray compartment of the evaporator. With the freezing trays removed, a small metal frame for supporting the mixing cylinder is fitted into the evaporator.

Rotating blades in the cylinder containing the ice cream mix provide the action for whipping the cream into its frozen state. These blades are rotated, either by the auxiliary motor, or by a flexible drive shaft deriving its power from the flywheel.

In self-contained machines, the flexible shaft is connected to a clutch disc on the flywheel. This shafting, with a diameter of one-half inch, is run up the rear of the cabinet, entry to the compartment being made along with the refrigerant tubing.

Control of this device is automatic, a special cam cutting off the current to the auxiliary motor as the ice cream turns hard. Mr. Smith is also using several methods of control for the freezer powered by the compressor. In the demonstration unit pictured here, the control is operated by the special cam.

Mr. Smith believes that this device can be made a general all-round utility in the kitchen. In addition to freezing of ice cream, he has found it very handy for beating eggs, mixing malted milk, mashing potatoes, grinding vegetables,



New Ice Cream Freezer

squeezing lemons and oranges, and also as a grinder for sharpening knives.

At the present time, Mr. Smith states that he has made no definite plans for marketing his new product.

ELECTRIC REFRIGERATORS ON PARADE FOR THE FARMERS

Harrisburg, Pa.—Electric refrigeration made a good showing at the Pennsylvania Farm Products Show.

Twenty-five different models and sizes of electric refrigerators were on display for the close to a quarter million people who inspected the 15th annual farm show which was held in the new ten-acre building at the State Capitol during January.

The largest display was by General Electric, which exhibited 11 models. It was in charge of Ross E. Stickel. The sixty-seven counties in the state are looked after by four distributors and they were given prominent notice in the display as well as some of them having representatives present.

Two Majestic models were shown by the C. F. Hoover Furniture Co., Harrisburg, under the direction of C. E. Christ.

Westinghouse was represented by M. L. Mumma, Harrisburg distributor.

The Wolfe Engineering and Sales Corp., Harrisburg, had an elaborate exhibit in charge of Enos E. Miller, vice-president. It was showing for the first time a new ice cream making outfit, which is a combination freezer, hardening and storage tank of 40-gallon capacity.

Seven Frigidaire models were shown by J. J. Pocock, Philadelphia distributor. The booth was in charge of Herbert Toms, supervisor for the Harrisburg district.

The Eastern Sales Co., West Chester, displayed a milk-cooling cabinet. M. B. Cann, vice-president of the company, was in charge.

TWO GROCERIES PURCHASE CRUSE EQUIPMENT

Louisville, Ky.—The Cruse Refrigerator Company, 1726 Melwood Avenue, recently installed a new type display counter and a storage refrigerator in the grocery operated by Mr. Bir in New Albany, Indiana.

An installation here using Cruse equipment was made in Hudson's Market, 2720 Frankfort Avenue. It includes a wall cooler, a 12 ft. display counter, and a 7 ft. delicatessen counter.

DETROIT PLANT TO PRODUCE SOLID CO_2

Detroit, Mich.—Solid carbon dioxide will go into production here within 60 days, according to A. J. Cordrey, who will be in charge of production. Borin Bros., a local concern, is erecting the first manufacturing plant for this commodity. to be located in Detroit.

The Borin Bros. company has operated coal and ice plants in Detroit for the past 17 years, and just recently decided to go into the manufacture of solid carbon dioxide. Officials of the company say the market for this commodity lies principally with ice cream manufacturers, and meat packers and shippers.

The factory building is being erected at Linwood Ave. and the Detroit Terminal Railroad. It is a steel-framed brick structure, two stories high, with a frontage of 57 feet on Linwood Ave. and a depth of 210 feet.

The land and building together represent an investment of approximately $100,000, according to the owners, and another $100,000 is going into the cost of the production machinery. The management plans to employ 40 to 45 men at the start, and to increase the number of employees as the business grows.

There are some 40 manufacturers of solid carbon dioxide in the United States at the present time, Mr. Cordrey said, while only three are using the production process which the Borin plant will utilize.

Continuous Process

The factory will use a continuous process scheme of production, starting with the burning of 72-hour coke in two boilers built especially for the purpose of producing carbon dioxide gas. Seventy-two hour coke is composed of about 90 per cent carbon, one per cent sulphur, and the rest miscellaneous elements.

The flue gases of these boilers will contain 22 per cent of carbon dioxide, six to eight per cent of sulphur dioxide, and the remainder other gases, principally nitrogen. These gases will pass into the top of "scrubbers", which are machines for removing the sulphur content of the flue gases. In the bottom of the scrubbers will be flowing water which, having an affinity for sulphur dioxide, will absorb all the sulphur dioxide, the resulting acid being drained from the process.

With the sulphur removed, the next problem is to extricate the remaining impurity—nitrogen. This will be accomplished by passing the gas into one of three "lye boilers", in which a potash lye solution, having an affinity for nitrogen, will absorb that element in the presence of heat. The heat will be furnished by the exhaust steam at five pounds of pressure from the compressor machinery used elsewhere in the production line.

The carbon dioxide gas driven off from the lye boilers will next be piped to the gasometer which serves as a storage tank and cushion for the compressors.

Making the "Snow"

In the next step, a series of compressors will reduce the now-pure carbon dioxide gas to liquid carbon dioxide. The liquid then will move to expansion valves discharging into the cylinder of a press. As the liquid goes through the expansion valves it will change into "snow", resembling outdoor snow, and carbon dioxide gas. The gas will be returned to the gas cycle, and the snow simultaneously treated with liquid carbon dioxide and compressed by the piston of the press.

When the pressure is reduced to atmospheric as the last step in the manufacturing process, a certain amount of carbon dioxide will evaporate, dropping the temperature so much that the carbon dioxide will solidify.

The finished product will be a 10-inch cube, weighing 50 pounds. It will be stored in insulated compartments with no refrigeration except that produced by the solid carbon dioxide. The temperature in the storage spaces will be about minus 109 degrees F.

At no point in the production line is any carbon dioxide gas or liquid to be wasted, every possible precaution being taken to prevent obnoxious gases issuing into the neighborhood.

YORK COOLS DISPLAY CASE, TANK AND COOLER

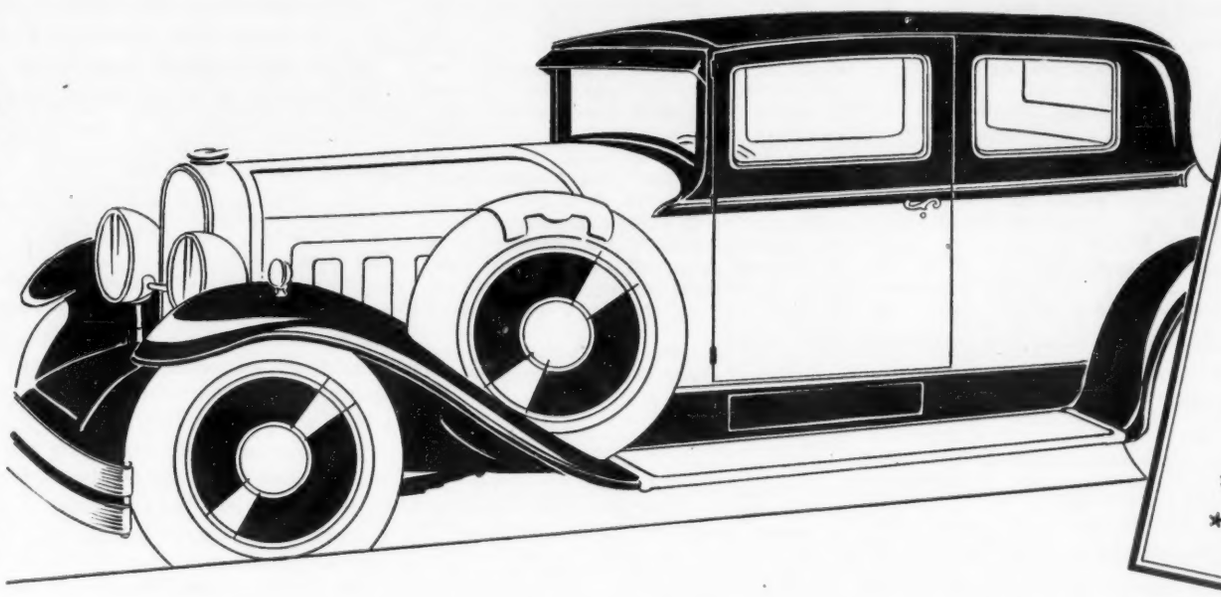
Seymour, Conn.—York Refrigerating Co. has installed equipment in M. Brown's Market, 137 Main street, to cool a meat cooler of walk-in type, 10x7½x10 ft. in dimensions, a 20-foot display case and a window display tank 4 ft. wide x 4 ft. long x 12 ft. deep. The York unit is powered by a 2-horsepower motor.

GROCERY BUYS EQUIPMENT

Springfield, Ill.—The H. U. Plain grocery store, located at 802 South Fifth St., has purchased from the Springfield Kelvinator Sales Co. a Seeger L-68 refrigerator.

It is equipped with a X-5-100 cross fin cooling coil and a F-11 heavy duty condensing unit.

A car must have more than just the body



★ *Star these 6 questions when you buy insulation*

★ Is it an efficient barrier to heat?
★ Will it resist moisture?
★ Will it serve without warping, shrinking, or buckling?
★ Will it resist decay and deterioration?
★ Has it structural strength?
★ Is it permanently reliable?

INSULATION

needs more than "LOW CONDUCTIVITY"

HOW can you judge insulation values? By what yardstick can you measure the efficiency of an insulating material—for either quick-freeze or normal temperatures?

The sure way is to consider all factors. Not only conductivity, but moisture resistance, strength, rigidity, ease of installation, and reputation of the manufacturer. Measured by all these standards, there is one insulating material that stands out—Armstrong's Type LK Corkboard, a material exceptionally light in weight and low in conductivity. Properly installed, it meets all the severe requirements.

Armstrong's Type LK Corkboard has a conductivity of only .263 B. t. u. per square foot, per inch thickness, per degree Fahrenheit temperature difference, per hour, at 60° F. mean temperature. Tests prove that Armstrong's Type LK Corkboard has low moisture absorption—the prime requisite for any low temperature insulation. Type LK Corkboard has structural strength. Its rigidity prevents settling with the vibration of slamming doors. It is easy to install. As for reputation, Armstrong's Corkboard has been standard insulation for more than a quarter of a century in all kinds of cold storage and refrigeration work.

We will gladly send you samples of Armstrong's Type LK Corkboard for tests. Remember, too, that Armstrong's knowledge and experience in the insulation field are at your service. Armstrong engineers will be glad to give you their recommendations for quick-freeze equipment. Address Armstrong Cork & Insulation Co., 917 Concord Street, Lancaster, Penna.

Armstrong's (A) Product

This commercial quick-freeze Nu-Way Cabinet uses Armstrong's Corkboard because it offers low conductivity—and every other advantage good insulation needs.

AT YOUR SERVICE

Twenty-nine Armstrong Cork & Insulation Company branches at the following cities are ready to serve you. See Telephone Directory for street address of the branch office nearest you.

~ ~ ~

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Armstrong's TYPE LK Corkboard Insulation

Efficient and Practical Insulation for Refrigerating Equipment

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Studying the Commercial Market

A FEW days ago I got wind of the news that the contract for a big commercial installation in a hospital right here in our home town was going to be let at 3 o'clock in the afternoon," relates the sales manager for one of the leading electric refrigeration manufacturers. "I called up our commercial department to find out what our bid was, and learned, to my amazement, that they hadn't even furnished an estimate!

"Naturally I made an investigation. I learned that the hospital had been canvassed—for water coolers! The salesman had no idea that anything else in the refrigeration line might be needed by a hospital. And so we lost the chance to bid on one of the biggest commercial installations made here in the last six months—right here in our own home town."

This little true story is just one among many similar tales which may be heard wherever commercial sales are being discussed. The outstanding fact about the commercial refrigeration market today seems to be that nobody knows enough about it.

Commercial sales managers seem pretty well agreed that the best way to unearth prospects is to make a cold canvass of every food merchant in the territory. Apparently no less wasteful method has been discovered. And even the cold canvass does not assure the manager that all the refrigeration needs of his territory will be uncovered, for his salesmen may not know a need when they see one, and in many cases don't know just what the needs are.

To date no authoritative studies of the refrigeration requirements of food stores have appeared. Refrigerating equipment is sold in great quantities to meat markets, grocery stores, bakeries, delicatessens and confectioneries. Estimates for these jobs, however, are often little more than blind guesses.

Engineers can calculate the size of machine required to keep a closed box of known capacity at a certain temperature. But they do not know how many times a day the door to this box will be opened and closed, how much meat and other foodstuffs will be kept in the box, and similar information which can come only from the consumer. Usually the consumer himself does not have data of this nature available.

A thoroughgoing investigation of refrigeration habits and practices of the many classes and varieties of food stores might bring to light information of this character, as well as hitherto unsuspected facts which might help commercial salesmen estimate more accurately the complete refrigeration needs of his prospects.

In this issue is reported the news of two new developments which offer great possibilities for profit to every commercial refrigeration sales organization. One is the application of low temperature refrigeration display cases, developed originally for quick-frozen foods, to the merchandising of molded ice cream.

Manufacturers of these specialties have long been handicapped by the fact that they could not display their wares. Hostesses who desired ice cream turkeys for Thanksgiving dinners, or frozen wedding bells for the announcement of engagements, were forced to buy these desserts sight unseen.

Moreover, the outlet for these ice cream specialties has been restricted almost entirely to the realm of parties which required considerable planning. By placing their novelties in low temperature display cases and keeping them constantly before the public eye, ice cream manufacturers will now be able to reach the great market of shoppers who are looking around for something to complete their dinner menus.

The second important development recorded in this issue is that of the food department store. Independent merchants in widely scattered parts of the nation, seeking some new weapon for combatting the chain store, have concurrently hit upon this plan.

These stores are designed to fulfill all the food requirements of a family. Instead of shopping around in several different food stores to select the various component parts of a good meal, the housewife is encouraged to do all of her food buying in this one store.

Refrigeration is one of the foremost needs of these department stores, and a demand is growing up among them for matched as well as correlated equipment. A man who intends to sell refrigeration to an establishment of this type must be prepared to furnish complete layouts, designs, and cost estimates.

The day is past when the commercial salesmen need only point out the economy of electric refrigeration. Today he must be armed with an array of facts concerning the existence of which he probably had no knowledge at all yesterday.

GLEANINGS
FROM CURRENT PERIODICALS

Chicago is the largest city yet covered by the retail census of distribution. Among the facts disclosed are:

Number of retail stores, 43,625; total business, $2,153,626,553. Single store independents represent 50% of the total retail business, a proportion considerably smaller than in any other city reported on so far. General merchandise takes the lead in sales, with food second and automotive third.

Fifteen thousand nine hundred and sixty-six food stores do a business of $427,534,870; 75,275 grocery stores have a volume of $202,517,936, or 19.85% of total retail sales. Of these stores, 1,600 have fresh meat markets. In addition, 3,212 meat markets do a business of $111,292,904.

Four thousand four hundred and seventy-four restaurants and eating places had net sales of $129,814,537, or 6.03% of total retail business. Restaurants thus rank fifth among retail groups in volume of sales.

Average sales of stores handling groceries alone were $27,601; average sales of grocery stores handling meats as well were $28,672. Average sales of meat markets were $35,973, while meat markets which handle groceries also average $38,251.

Cafeterias average $103,781 in sales, restaurants $85,543, lunch rooms $17,205.

Cigar stores with fountains average $15,282, while those without fountains average $39,677.

Drug stores with fountains average $46,466, while drug stores without fountains average $23,843.

Five thousand three hundred and eighty-three single grocery stores do 44.5% of the total grocery business; 1,629 units of sectional and national chains do 48.8%, while 263 units of local chain systems do 6.7%. The average annual business of the single independent stores is $16,771, while the sectional and national chain units average $60,700.—*The Facts in Food Distribution*, Jan. 10.

"Satisfactory display cases can be built for quick frozen foods. But no experiment has yet indicated who will supply the enormous investment necessary to equip retail stores with such cases on a nation-wide scale.

"Unless a manufacturer can supply a complete line of frozen food products comparable in price and quality to those of his competitors, it is likely that cases which he may finance will be partially usurped for the products of other manufacturers.

"And a manufacturer bearing investment charges on hundreds of cases cannot meet price competition of a producer not so burdened. The obvious conclusion appears that, in the long run, it is the retailer who must supply the case. In this connection one large company has already abandoned its policy of furnishing even temporary cases."—*Food Industries*, January.

"Shopping times should be changed to suit consumers. One person out of every three is on someone's payroll, or would like to be, and works from 40 to 48 hours a week. Weakness in present system of store opening and closing is that most stores are open only when a large percentage of the best spenders are at work.

"Stores close about the same time that factories and offices shut down, or perhaps an hour or so later. The consumer wants to shop when he has time to go about unhurried. That time has changed, and it is more important now than ever that the store hours break with stupid tradition and fit profitably into the modern merchandising scene."—*J. A. Murphy, Chain Store Review*, January.

Automatic vending of ice cream has been given a boost by a process for coating metals with rubber, developed by the Goodrich Rubber Co.

This has made possible the construction of ice cream and frozen confection venders in which the frozen packaged cream, etc., will not freeze to the inside of the vender.

While these machines for frozen things are still experimental, new sales outlets are indicated for the beverage and ice cream trades.—*Automatic Age*, December.

"Side-lines are becoming an increasing part of the milk business being done by a Buffalo, N. Y., milk dealer. Besides the sale of milk, cottage cheese, and other dairy products, this company has been delivering maple syrup, which it gets from those farmers from whom it buys milk, and cans of chocolate mixture, whose sale has been found to increase the consumption of milk. Potatoes will be added next and canned goods in case lots is being considered."—*Milk Dealer*, December.

Coming:

A special section for engineers.

An Editor on Wheels
Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

In this young and robust industry movements of men are frequent. To men—and their wives—who are interested in the PLACES where electric refrigeration products are made, the editor offers this "kolyum" of observations and impressions of the towns and cities he visits.

Greenville, Mich.

Greenville should change its name to Welcome. The people there are like that.

The bus driver who took us there had a fine disregard for the rule about silent steering, and kept up a running fire of comment on the scenic specialties of the country through which we were passing.

As we entered Greenville, his raptures shifted from the Nature theme to the home-town booster thesis. By the time he had ambled up to the inn, his three passengers were pretty well convinced that Greenville was quite a town.

And quite a town it is, although it must measure its worth in the quality rather than the quantity of its citizens.

At the inn we warmed ourselves a bit before inquiring for means of getting to the Gibson Refrigerator Co. The "means" answered the inquiries. His name was George Smith, and he was the town taxi company.

An old Paige sedan was his taxi, and he drove it with the same loving care that sailing captains used to bestow upon their first ships. Single passengers are invited to ride in the front seat with him.

He, too, talked warmingly of Greenville and its pleasant inhabitants. Boosting seems to be a town habit.

* * *

Belding, Mich.

The home of Belding-Hall refrigerators is also the home of a sizeable silk-manufacturing industry, and is something of an industrial center, despite its unpretentious size.

It's a much more brisk town than its close neighbor, Greenville, and the men and women on the streets act like they were going somewhere.

Newsboys, who evidently have been to Detroit or Chicago and heard how the "wuxtry moider" cry is really yodelled, are very much in evidence. This town, one feels, would much prefer being termed a "city."

* * *

Grand Rapids, Mich.

A combination of winding and convergent streets, together with inconsistent appearances of hilly bumps, give downtown Grand Rapids an eery visage like the villages one used to see in children's books about goblins and suchlike.

One discovers that there are a hundred and umpteen factory buildings in the town, that all seem to manufacture some sort of furniture, and that all are named "Grand Rapids" something-or-other. It's a puzzling town.

Although "furriners" in Grand Rapids may be bewildered, the inhabitants are not. They are very conscious and very proud that they live in the city which furnishes the wherewithal for American families to convert houses into homes.

It's a live, go-getting place, wherein one is transported quickly, given lightning service at hotels and restaurants, and shown that the good old American philosophy of honest labor is the dominant motif in the lives of its citizens.

* * *

Evansville, Ind.

Evansville has many things about which to boast. Plenty of work for all, plenty of money in circulation, and plenty of friends in every section of town. Busy and alert, yet not too busy for good-natured pleasantries.

What recommends it most is its roominess. A number of sizeable industries are running full blast in Evansville. Business is good. And yet there is no traffic problem, no housing problem, no health problem. There's room for everybody to stretch out and breathe deeply.

Although apartments are there, of course, Evansville is still pre-eminently a city of homes. Best of all, these homes are usually located on a plot of ground big enough to give the house its proper setting, allow children their due share of ball-playing, and permit both flower and vegetable gardens.

Consider, for example, the home of W. Paul Jones, whose youthful appearance belies his title (advertising and sales promotion manager of Servel, Inc.).

He lives on a corner plot which is so spacious that it would qualify for an estate in many cities, and he is going in for landscape gardening in a large way. His neighbors for blocks around are blessed with equally generous portions of grass and trees.

* * *

Kendallville, Ind.

As spick and span as the kitchens in Old Dutch Cleanser advertisements is Kendallville. Its wide lawns, gardens, and trees are well groomed. Almost all of the houses—praise be to Allah!—are freshly painted.

Inhabitants appear to be the antithesis of self-conscious. Men walk about in shirt sleeves and vests; women call to each other over half a block of intervening ground; schoolgirls walk linked-arm and lock-step down the sidewalks, singing little duets and trios; schoolboys boisterously toss balls back and forth as they wander down the streets.

Located at the juncture of two railroad lines, the McCray Refrigerator Co. factory is the pride of the town. Nearly all its workers are local products and lifelong inhabitants.

At noon the factory is as empty as father's purse the day after Christmas. No lunch pails are ever packed, because it's merely a matter of a few blocks, more or less, to each worker's home. Empty, too, are the offices. Not even a girl to answer the telephone or stare stonily at salesmen.

* * *

Butler, Ind.

With an hour of twilight to spend while waiting for a train at this railroad junction, we strolled up to the "business district" of Butler (two blocks lined with one and two-story frame store buildings).

On the road we noticed almost every home had a radio, and that the whole family was gathered around it. Upon arrival "uptown" we found a large open store with some two dozen men listening to a radio. Convinced that President Hoover must be addressing the nation, we walked in to hear the treat, too.

You know the answer. It was Amos 'n' Andy—the high spot of the day to Butler denizens.

This particular store was that of a Majestic radio dealer. Dominant in one window was a Majestic refrigerator. After Amos had had the last word, we questioned the proprietor about the big refrigerator there on display. Here is a literal transcription of his sales talk:

"Yup, it's mighty good thing. Eighty-four ice cubes. Just plug it in. Insulation? Zero-Dry, I think. Yup, 84 ice cubes, you know. It's a mighty good thing." And he returned to the stove, to dial something else on the radio.

* * *

Prairie Philosophy

Prairie people always seem friendly, likeable, and democratic. Perhaps the level ground they live upon has something to do with it. Geographically, nobody is higher up than anyone else—the whole population is "on the level."

In hilly countries the unevenness of the earth is possibly a constant reminder of the fact that in the inevitable scale of human aspirations some are in much higher positions than others.

Automobile drivers must keep one foot on the brake and one hand on the gear-shift. It all makes for tenseness—and sharpness. The mountains are aloof and cold. Likewise, often, their people.

A PAGE FOR HOME SERVICE WOMEN

LUNCHEON MENU IS EASILY PREPARED

By Mrs. P. K. Dunning
Society for Electrical Development

THE electric refrigerator is an invaluable asset to the housewife, who is planning to entertain her friends at a bridge luncheon in her home. In the menu printed below, many of the foods may be entirely prepared well in advance and stored in the refrigerator until serving time.

Preparation of the foods beforehand saves the housewife considerable time and needless rushing about at the last minute when the kitchen is all astir.

A menu, which is equally good served at luncheon or late supper, is composed of the following:

Jellied chicken bouillon
Cream chicken with pimento hearts on waffles
Jellied tomato salad
Maraschino cherry bavarian cream
Iced heart-shaped cakes
Tea or coffee

The creamed chicken with pieces of pimento, cut in heart shapes, should be served from an electric chafing dish. The waffle batter should be stored in a covered pitcher in the refrigerator and baked at table on an electric waffle iron. Following are the recipes for the jellied tomato salad and the maraschino cherry cream:

Jellied Tomato Salad

4 good sized tomatoes
½ small onion
½ tablespoon gelatin
1 tablespoon cold water
1 cup chopped mixed vegetables (celery, cucumbers, green pepper, cabbage)
1 cup water
½ teaspoon salt
1 teaspoon sugar
1 tablespoon vinegar

Cut a slice from the stem end of each tomato and scoop out the pulp. Sprinkle the inside of the tomatoes with salt and invert them to drain, catching all juice. To the tomato juice and pulp add water, then the onion chopped fine, the salt and sugar. Cook fifteen minutes and rub through a sieve. There should be about three-fourths of a cup of liquid. Add water if necessary to make up this amount. Add the gelatin which has soaked for five minutes in the tablespoon of cold water, and when thoroughly dissolved add the vinegar. Let stand until partially thickened. Then add the chopped vegetables. Fill the tomato shells with the mixture and place in electric refrigerator to become firm. Serve on a nest of lettuce leaves, garnished with mayonnaise.

Maraaschino Cherry Bavarian Cream

¾ tablespoon gelatin
1 cup milk
2 eggs
1 small bottle maraschino cherries
2 tablespoons milk
½ cup sugar
1 cup cream

Cut the cherries crosswise into thin slices. Soak the gelatin in two tablespoons of milk. Heat the cup of milk in a double boiler. Beat the eggs slightly and combine with the sugar. Pour the hot milk onto this mixture, then return to the double boiler and cook, stirring constantly until mixture coats the spoon. Remove from fire, add the soaked gelatin, and when thoroughly dissolved set aside to cool. When cold and somewhat thickened, add the cherries and place in electric refrigerator to set. Serve in sherbet glasses, garnished with sections of cherry.

COPELAND PROTECTS PEONY BUDS

Mishawaka, Ind. — The Auer Sales Company of South Bend recently made an interesting installation of Copeland equipment for the preservation of peonies. This Copeland refrigerating system was designed for Chas. W. Phelps, flower grower of Mishawaka, Indiana.

Phelps raises hundreds of varieties of peonies for shipment all over the United States. He cultivates several acres of these flowers every season.

Just as soon as peony buds are ripe for cutting they are taken to a storage house, where a low temperature is kept, placed in containers of water and held here until ordered. When order is received, buds are taken out of storage house and put into the trimming room, which is kept at normal temperature, where they remain overnight to partially blossom.

The storage house is constructed of ordinary building tile, with insulation of three thicknesses of beaver board, each thickness being interlined with heavy tar paper. A Copeland X condensing unit is used for refrigerating together with a Model 1060 Copeland-Larkin coil.

Mr. Phelps estimates a saving of approximately $300 00 was made during the past season by the use of refrigeration which prevented spoilage.

Tips on Using the Left-over Foods

By Clara G. Snyder

A CHICKEN or other fowl from which the best portions have been served still has on it much good meat, but it scarcely is attractive enough to be put on the table "as is." But none of the meat need go to waste.

Sometimes there is hardly enough left to make a special dish, yet even a little chicken meat imparts a delightful flavor to most combination dishes. Cooked lean pork or veal may be shredded or diced and combined with the chicken to make it go farther.

Both of these meats are delicate enough in flavor so that they do not mask the chicken flavor. When the meats are all ground together the difference in texture is not noticeable. If there is a little left-over dressing, it may be combined with the meat too. Gravy always adds a pleasing quality, so really nothing need be lost. If no gravy or broth is left over, a small can of chicken broth may be purchased and used with the meat.

One cook I know always stews the wing tips, neck and feet when she dresses her bird. She strains the broth obtained this way and puts it in her refrigerator to be used in preparing "left-over dishes." The following dishes are easy to prepare and easy to eat.

Chicken Roll

2 cups flour
½ teaspoon salt
¾ cup milk
4 teaspoons baking powder
3 tablespoons shortening
1 cup ground chicken meat
1 egg

Make a biscuit dough by cutting the shortening into the sifted dry ingredients and then adding the milk to make a soft dough. Roll out dough to ¼-inch thickness. Spread with the meat which has been mixed with the slightly beaten egg. Roll like a jelly roll. Slice ¾-inch thick. Put slices, cut side down, into greased pan. Bake in hot oven (450 degrees F.) for about 20 minutes. Serve with hot gravy. If none was left over, thicken a can of chicken bouillon (allowing one tablespoon of flour to a cup of broth). This amount makes 8 biscuits.

Chicken l'Orient

3 tablespoons butter
½ cup tomatoes
1 cup chicken, diced
½ cup gravy or broth
1 very small onion, chopped
2 cups cooked rice
6 stalks celery, cut

Brown onion and celery in butter. Add tomatoes, rice and chicken. Pour the gravy or broth over this. Let simmer for 10 minutes. Serves 6.

Chicken Shortcake

2 cups flour
4 teaspoons baking powder
¾ cup milk
½ teaspoon salt
4 tablespoons shortening
½ cup diced celery
2 tablespoons butter
Left-over chicken and gravy

Cut the shortening into the sifted dry ingredients. Add the milk to make a soft dough. Roll out to ¾-inch thickness and cut with biscuit cutter. Bake in hot oven (450 deg. F.) for 12 minutes. While the biscuits are baking, brown the celery in melted butter. Add the chicken and gravy and heat thoroughly. When the biscuits are done, break each one open, put some of the chicken mixture on the lower half, put the top back on and put a spoonful of the chicken mixture over all. Gravy made by thickening chicken broth may be added or used to put over the shortcake. This recipe makes a dozen large biscuits.

MAKING IT SAFE FOR GOBS TO BE HUNGRY

Bremerton, Wash.—Uncle Sam's gobs shipping on the cruiser Louisville, which was recently completed at the Navy Yard here, will enjoy the conveniences of electric refrigeration.

The cruiser was equipped with Electro-Kold refrigeration by the Electro-Kold Sales Corp. of Seattle.

Another government job completed a short time ago by Electro-Kold was the installation of equipment in the U. S. Marine Hospital at Port Townsend, Wash.

DEPARTMENT STORE TO SELL G. E.'s

Topeka, Kan.—Crosby Brothers' Department Store is now merchandising General Electric refrigerators. W. A. Gregory is in charge of the refrigeration department.

A large crowd was present at the opening of the display room and the supply of 2,000 G. E. water bottles provided as souvenirs for the guests was exhausted in a short time.

Home Economist Tells How to Prepare Foods for the Buffet Supper

By Marion F. Sawyer
Home Economics Dept., Kelvinator Corp.

OF all the delightful types of entertaining, there is none which lends itself better to the happy informality of a more or less impromptu gathering on a winter evening, than does the buffet supper. The table may be attractively laid in the dining room, with plates of tempting hors d'oeuvres, daintily garnished salads, toothsome sandwiches, at least one hot dish, such as escalloped potatoes, a delicious frozen or jellied dessert, and, of course, tea or coffee.

Buffet Supper

Assorted Hors d'oeuvres
Chicken Supreme Au Gratin Potatoes
Cheese Tea Sandwiches
Pineapple Bavarian Cream
Coffee

Chicken Supreme:—1½ cups minced chicken, ½ cup blanched chopped almonds, ½ cup shredded pineapple, ¾ cup mayonnaise, 1 cup heavy cream, salt, paprika. Blanch and chop the almonds, drain pineapple and combine with the minced chicken. Fold in mayonnaise and then the cream. Season. Mix lightly but thoroughly. Freezes in 2 hours. Fills one 27-cube tray.

Assorted Hors D'Oeuvres:—Grilled olives. Wrap stuffed olives in half slices of bacon, using toothpicks for skewers. Grill under the broiler in oven.

Anchovy Points:—Cut fresh toasted bread in pieces about three inches by one-half or three-quarters of an inch. Spread while hot with anchovy paste and place two or three pieces on each plate with other assorted hors d'oeuvres.

Stuffed Eggs:—Cut hard-cooked eggs in half crosswise. Mash the yolks, season with salt, pepper, butter and mayonnaise. Minced potted ham may be added. Refill the whites with the mixture and serve half an egg on each plate.

Caviar Canape:—Toast circles of bread on one side. Spread one-third of the circle with caviar, another third with minced onion, and the remaining third with the sifted and seasoned yolks of hard-cooked eggs.

Pineapple Bavarian Cream:—Two tablespoons gelatine, ½ cup pineapple juice, 1 pint scalded milk, 4 egg yolks, ¼ cup sugar, salt, 1 teaspoon vanilla, 1 pint heavy cream, sliced pineapple. Soak the gelatine in pineapple juice for five minutes. Make a soft custard of the milk, egg yolks, sugar and flavoring. Stir the softened gelatine into the hot custard. When it has dissolved, strain and cool. Whip the cream and fold it in as the mixture cools. Turn the mixture into individual ring molds, chill in Kelvinator, and when ready to serve unmold each ring on a ring of pineapple. Fill the center with sweetened whipped cream and top with a maraschino cherry.

This dessert may be made in a single mold if preferred. Arrange slices of pineapple on the bottom of a mold with a loose bottom, and pour the cream mixture over the pineapple. Unmold on a large cake or chop plate so that the pineapple rings will appear at the top.

VALENTINE PARFAIT MAKES ENTICING DISH

By Catherine Price

VALENTINE'S Day! What good times it brings to us—gay parties, charming luncheons and dinners. To the social hostess, however, it brings the eternal problem of having something different, new and delightful.

The following Valentine Parfait will solve the dessert problem of many a perplexed housewife, for not only is it delicious but it also may be worked into a red and white color scheme quite effective for the occasion.

Valentine Parfait

½ cup of powdered sugar
¼ cup of water
Pinch of salt
1 egg white
2 cups of whipping cream
2 teaspoonsful of vanilla

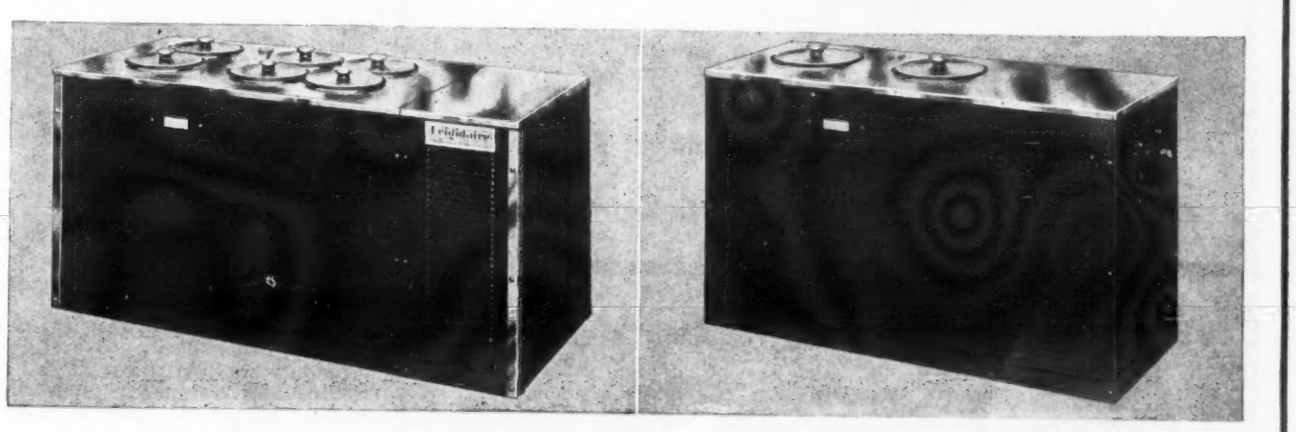
Boil sugar and water together until it threads. Add this very slowly to the beaten egg white, beat constantly until thick. Add the flavoring and salt and combine with the stiffly beaten cream. Leave one-half of the mixture white; to the other half add red vegetable coloring.

These portions may be frozen in ice cube trays. Serve in sherbet or parfait glasses. This quantity is sufficient for six persons. When served with individual heart-shaped cakes it is not only tasty, but the decorative effect is quite chic.

If a red and white combination is not desired, one may vary the vegetable coloring to obtain any shade.

FRIGIDAIRE

ice cream cabinets have Monel Metal *cabinet tops...*



2-hole and 6-hole portable Frigidaire ice cream cabinets—two members of the Frigidaire line—all with tops of easy-to-clean Monel Metal. Frigidaire cabinets also have Monel Metal screws and valve parts.

THE almost universal use of Monel Metal for ice cream cabinet tops reflects the demand of users for cabinets that combine ready cleanability, resistance to hard wear and attractive appearance.

Monel Metal's silvery beauty is modern...it's permanent. Monel Metal will not rust and it resists the corrosive attacks of food juices and cleaning compounds. It can be kept spotless and shining with minimum cleaning effort. Strong as steel, with no coating to wear off, Monel Metal resists the denting and scratching that quickly ages ordinary cabinet top materials.

These advantages are due largely to Monel Metal's high Nickel content. Monel Metal is two-thirds Nickel—the same metal that improves the properties of stainless steels, Nickel silvers and other Nickel alloys. Whether you manufacture or use ice cream cabinets, it will pay you to specify easy-to-clean, wear-resisting Monel Metal because..."Nickel alloys look better longer."

Monel Metal is a registered trade mark applied to a technically controlled nickel-copper alloy of high nickel content. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL METAL

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

LOW TEMPERATURE REFRIGERATION PROGRESS

Detroit Dairy Man Sees Big Future For Packaged Ice Cream

Detroit.—Packaged ice cream sales can be increased through the use of low temperature display cabinets, in the opinion of H. B. Rigby, president of the Quaker Dairies, Inc., manufacturers of ice cream for many of the hotels, clubs and restaurants in this city.

Unlike bulk ice cream which can lose some of its freshness and creaminess in retail handling, packaged ice cream reaches the customer with its original quality, texture, and air content preserved, he said.

One factor hindering the sale of packaged ice cream has been the lack of any direct appeal to the eye of the customer, he believes, and pointed out that even sundaes and sodas have the eye appeal, and practically all kinds of other foods—bread, meat, candy, fruits, and vegetables which are exhibited in plain sight of the buyer.

"Letting the customer see and handle a salable article is a sound, old merchandising policy," he stated, "and is especially applicable to the sale of ice cream which is a 'desire article,' usually bought on the spur of the moment and consumed immediately."

He substantiated his views by telling of his experiences last summer in marketing packaged ice cream through a chain of self-serve grocery stores.

From May until the time of the voluntary receivership of the National Groceterias in August of last year, Mr. Rigby said, a remarkable amount of packaged ice cream was sold in the self-serve display cases of those stores.

When the warm season arrives, the National Tea Co., which now controls 28 of the 45 former National Groceterias, is planning to use the same system of selling packaged ice cream in these stores, according to Mr. Rigby.

The cabinets were built to order by the Grand Rapids Cabinet Co. and equipped with refrigerating units of the Universal Cooler Corp. Below-zero temperatures were maintained.

Standing about regulation counter height, the cabinets match the rest of the store equipment, he said. The doors are at the top, one on each side, so that the customer may reach down either side to take the size and flavor of ice cream that attracts her.

Five-cent, ten-cent, pint, and quart packages of ice cream were available between the vertical partitions of the cabinet, he said. Each morning the ice cream truck driver stopped to replenish the stock, removing any packages which were squeezed or soiled by careless customers, so the stock could always be kept clean, fresh, and inviting, he stated.

The introduction of a new buying habit was also promoted while the Groceterias were operating, Mr. Rigby said, namely that of buying ice cream several hours before its intended use. When the purchaser of ice cream came to the turnstile she was offered a corregated cardboard container in which the attending clerk placed enough solid carbon dioxide to cool that quantity of ice cream for the number of hours the customer wanted to keep it.

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The ORIGINAL—Many Feature Coils—Made in 93 Different Sizes . . . . .

Standard Factory Equipment

Copeland — DEPENDABLE Electric Refrigeration — DETROIT, MICH.

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M-E Electric-Automatic REFRIGERATOR — PHILADELPHIA

KULAIR — PHILADELPHIA, PA.

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WILLIAMS ICE-O-MATIC REFRIGERATION — BLOOMINGTON, ILLINOIS

Wayne — FORT WAYNE, IND.

Modern — BLUEMONT, ILLINOIS

POTTER — PORTLAND, O.

Zerozone — Lifetime Refrigeration

TRUPAR — DAYTON.—OHIO

JACK FROST — REFRIGERATION, ltd. TORONTO-CANADA

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LARKIN-WARREN REFRIGERATING CORP'N

Originators and Manufacturers

ATLANTA - - GEORGIA

ASSOCIATION SHOULD PROTECT CONSUMER, SPEAKER DECLARES

By E. L. Rhoades*

THERE are too many national associations. There are 150 national food trade associations. We should think carefully before we clutter up the directories with the name of another one; many of these associations mean nothing after they are organized. By spreading themselves too thinly over the nation they lose the power to do aggressive, timely work. Many of these associations have had a mere enthusiasm instead of a purpose.

If I thought that this proposed Frozen Food Association represented mere enthusiasm for a new idea, and a desire to assemble a group of enthusiasts so that enthusiastic claims and enthusiastic speeches might mount higher and higher, if I thought that, I would reiterate emphatically, there are too many national associations.

But I see a real place for a real need for a national association of those who are intelligently interested in the trade in frozen foods. You have a service to perform in informing consumers on the nature and uses of frozen foods. You perhaps owe to dealers who are to handle these foods, some constructive support and assistance. You have the need for a clearing house of information among yourselves.

When I mention informing customers, I do not mean the dissemination of foolish ballyhoo about the marvelous, stupendous glories of frozen foods, and how they are here to revolutionize the world and save mankind. There has perhaps been too much of that already.

Hard-Headed Judgment

The revolutionizing possibilities of these new methods have caught the popular fancy, and the press has been active in exploiting them. There has perhaps been enough of that kind of exhuberance. The consumer likes to read fairy tales, but she uses a lot of hard-headed judgment in buying her food.

Information for the consumer must in the future be substantial, well balanced, stated in terms of the kitchen instead of the factory, and must emanate from a source or sources that have a right to speak with confidence and fairness. Frozen foods may become a joke with consumers, instead of an appeal, unless we are very careful to gear our enthusiasm down to the buying psychology of the housewife, who is a very practical, intelligent and hard-headed individual.

A national association with a competent, well-balanced publicity bureau would receive the immediate support of the press, and could do much to prepare the minds of consumers properly for the acceptance of new frozen products that meet their needs.

I think you will agree with me that flavor, superior flavor, is the keynote to the new trade in frozen foods. Quick freezing that instantly captures the essential oils and aromas of the fresh product brings a new breath of freshness to the table. Consumers want that. They will pay for it. A well-managed publicity bureau could see that they hear about it.

Let me speak next of your duties to the trade. It is through the dealer that you will do much of your educational work among consumers. The dealers are all interested in frozen foods. They want to know more about them.

Between Two Fires

At present they are gleaning their ideas from a vast array of competitive and confusing salesmen. Salesmen who sell low temperature cases and those who do not. Salesmen who offer frozen products, and those who offer competitive products. The dealer's mind is in a jumble about the whole matter. Since he has no adequate source of information, the careful, conservative dealer is doing nothing.

The emotional, progressive dealer is frequently rushing in, improperly prepared, with unsatisfactory, but expensive equipment, is frequently losing money and becoming so disgusted with the whole thing that he will never handle frozen foods again.

Your manufacturers, your engineers, and your scientists, who are intelligently interested in this movement, are in a position to extend a helping hand, and through an association, protect these dealers from blunders and encourage them in methods that are sound.

You will probably be surprised to find what sympathetic support and interest you will receive from dealer groups just as soon as you have fully established yourselves in their confidence. I have been asked to obtain, and have obtained the services of two practical engineers to address two different national food dealer conventions next week, and I have an S. O. S. for another. The dealers want to know. They will look to you for protection.

With some types of products, a manufacturer may store the finished product, gradually get it transferred to retailers' shelves, and let it set there until somebody wants to buy it. But this trade is different. We must, in this trade, prepare a refrigerated channel through which the product must pass swiftly and regularly to a waiting consumer. Your association must prepare this dealer and consumer channel as carefully as you set up your plants, or the whole machinery will break down.

In discussing dealers and consumers I am not forgetting the technical side of the business. The national association that neglects co-operative attention to scientific and engineering problems is likely to be a flimsy organization without much power, and very limited in value to its members. Organization for the focusing of attention on such problems is of such obvious and apparent value that I shall say no more about it, but assume that these phases must be adequately handled.

*An address by E. L. Rhoades, Editor, *The New Era in Food Distribution*, before Frozen Food Association, Atlanta, Georgia, Jan. 17, 1931.

General Foods Reports Sales Data in Frosted Foods Campaign

Springfield, Mass.—Accumulated sales data covering nearly 11 months of the Birdseye Frosted foods operation here have been summed up in a report by the General Foods Company. This report of the extended survey reads as follows:

"When General Foods Corporation started its introductory sales campaign for Birdseye Frosted Foods in Springfield, Mass., last March, a pertinent question often heard in the food trade was:

"How will quick-frozen meat sales affect grocery volume in stores which have not previously been handling meats?

"The experience of grocery chains in operating combination meat and grocery stores had shown that the addition of meat departments served to stimulate sales of grocery items. One of the principal objectives in the Birdseye campaign was to determine whether quick-frozen meat sales would have a similar effect on grocery volume.

Riding the Depression

"Analysis of sales figures and study of general economic conditions in Springfield show that the grocery stores which have been handling Birdseye meats have suffered probably considerably less in the business depression than the average grocery store.

"In view of the depressed economic conditions and the decline in most commodity prices, sales figures on the Birdseye operation would have to be weighted in order to provide a basis for accurate comparison over a long period.

"However, covering a period of 12 weeks last Spring, while conditions remained fairly stable, analysis of sales figures was made without weighting these two factors. The survey was made to compare grocery volume in six chain stores before and after they had established Birdseye Frosted Foods departments.

"It showed that in the six weeks after they took on the Birdseye line, sales volume of groceries in the six chain stores was increased from 3.4 to 12.2 per cent per week over the average weekly figure for the preceding six weeks.

"The average weekly volume increase in both groceries and Birdseye products during the second six weeks was 24 per cent over the average weekly figure for the first six weeks, grocery sales representing about one-third of the total increase.

Equipment for $1,000

"For about $1,000 a grocer can obtain satisfactory store equipment which will enable him to handle a meat business upward of $350 to $400 a week. No special knowledge of meats or meat-cutting is required, since the cartoned meat products may be retailed as easily as packaged grocery specialties.

"Analysis of sales figures for the first 34 weeks of the Birdseye test campaign in Springfield, to Nov. 1, shows that the number of Birdseye Frosted Foods customers closely parallelled dollar sales volume during the entire period of the survey.

"The highest average purchase per customer in any week was 14 cents more than the average for the entire 34 weeks, and was reached during the week of July 5, during the mid-summer slump. The lowest average purchase per customer, after the first three weeks, was nine cents less than the average for the entire time.

"Although general economic conditions in Springfield had been getting worse since the start of the campaign, and commodity prices had been considerably reduced, the average monetary purchase per customer during the last four weeks of the survey period was only six cents less than the average for the entire 34 weeks.

"Further analysis shows that during the 34 weeks the average purchase of Birdseye Frosted Foods was two pounds and a small fraction of an ounce.

"After the first three weeks of the campaign, the highest weekly average, pounds per customer, was 2.4 pounds. The lowest was 1.6, during the week of August 2. Average sale per customer for the last four weeks of the survey period, ending November 1, was a fraction of an ounce over two pounds.

"Responsiveness of Birdseye products to advertising and to price reduction is shown in several instances in the study of sales figures.

"Sales of stewing lamb, which was being sold at prices consistently higher than in two principal chain store systems in Springfield, maintained a volume which varied only slightly during the survey.

"However, on a week-end in September, when Birdseye stewing lamb was especially priced, sales jumped 530 per cent; then sales closely followed the previous level for the remainder of the 34 weeks.

"Similarly, under price reduction, sales of hamburger steak jumped from 400 pounds during the week of August 16 to 1,400 pounds during the next week; then sales dropped back to an average of about 500 pounds per week for the next several weeks.

Special Prices Increase Sales

"Sales of broilers, under the impetus of reduced prices, increased in volume 720 per cent in a single week. Sales of all other Birdseye products reacted in the same manner when prices were reduced, although in all of the instances previously mentioned prices of the Birdseye items were not reduced to the level of competition.

"Comparison of prices of three leading meat items in Birdseye stores with average prices of the same meats in Springfield stores of two large chains, over the period from March 15 to November 1, reveals the following figures:

	Birdseye (average per lb.)	Chains (average per lb.)	Difference (average per lb.)
Rib roast...	43 3	36.8	6.5
Pork chops .	39.9	36.2	3.7
Hamburger .	33.9	30.3	3.6

"Omitting the independent markets which sell both groceries and meats, analysis of Birdseye sales figures in the six stores of the Springfield chain participating in the test campaign shows that the average purchase per customer in these six chain stores was 78 cents.

"The lowest average purchase per customer in the chain stores during any week was 57 cents; the next lowest figure, after the first three weeks of the campaign, was 71 cents.

"The highest Birdseye purchase per customer was $1.03, in the week ending November 1, when the survey period closed.

"In a typical neighborhood store (one of the local chain) the average purchase of Birdseye products in the first half of the 34-week period was 2.15 pounds. In the last 17 weeks of the period the average purchase in this store was 2.65 pounds, an increase of one-half pound."

GIBSON CO. BRINGS OUT LOW TEMPERATURE CASE

Greenville, Mich.—Low temperature display cases and wall boxes are now being marketed by the Gibson Refrigerator Co., according to D. W. Hamilton, sales engineer in charge of development of low temperature equipment.

The display cases, which have been undergoing extensive tests in the Batchelder and Snyder laboratory at Boston, feature louver ventilators instead of sealed glass construction. They have been in production at the Gibson plant in Greenville since Jan. 28.

A demand has arisen for the display cases in the ice cream manufacturers' field, claims Mr. Hamilton. Negotiations are now under way with manufacturers in Boston for a substantial shipment of the cases. Ice cream in fancy molds can be displayed in these cabinets.

M. T. ZAROTSCHENZEFF CHANGES ADDRESS

Liverpool, England—M. T. Zarotschenzeff, frozen foods technician connected with the Liverpool Refrigeration Co., Ltd., announces that he has recently moved from the firm's branch office in London to its headquarters in the Colonial House on Water Street, Liverpool. This will be his permanent address henceforth.

CONSTITUTION OF FROZEN FOODS ASSOCIATION

New Organization Will Promote Research and Experimentation

(*Concluded from Page 1, Column 1*)

same afternoon with an address by E. L. Rhoades, editor of *New Era in Food Distribution.*

"The Possibilities of Dry Ice in Quick-Freezing" was next discussed by Mr. Comer of the Coca-Cola Co., and the meeting adjourned after an address by Mr. Ballentyne on "Can We Capture the Aroma of the Georgia Peach."

The complete text of the constitution follows:

ART. I. NAME AND MANAGEMENT

Sec. 1. The name of this association shall be: Frozen Foods Association of America.

Sec. 2. The principal office shall be in the city of Atlanta, Ga. The question of incorporation under the laws of the state shall be left to the discretion of the executive council.

Sec. 3. The Association shall be governed by this constitution, the by-laws and rules adopted by the membership in regular or special session.

ART. II. PURPOSE

Sec. 1. The purpose of this association shall be:

(1) To promote and assist research, experimentation and investigation looking toward improvement in technique, marketing and consumer acceptance of frozen foods.

(2) To serve as a clearing house to collect, correlate and disseminate in such manner as the executive committee shall deem best to serve the membership all available findings of public, quasi-public and private research, and experience pertaining to every phase of the frozen foods industries.

(3) To work with all research and investigating bodies, or individuals, in an effort to eliminate unnecessary duplication of effort; to broaden the scope of investigation undertaken by all such agencies as are now interested; to induce other agencies to undertake research and experimental work that might benefit the membership of this association, and, to bring to the attention of the membership the results of all such work.

(4) To zealously promote uniform high quality, grading, and attractive packaging of frozen foods, so that the industry may be spared the burden of unfavorable consumer reaction that might attend the distribution of inferior or unattractive products.

(5) To attempt by educational work and other means, if found necessary, to prevent the enactment of legislation unfavorable to the unhampered growth of the industry; to secure only such legislation as shall first have the approval of a majority of the membership, and, to work for the removal of antiquated statutes now existing in certain sections that tend to hinder the industry, and are not to the best interest of the country as a whole.

(6) To disseminate to the consuming public, through the daily, weekly and periodical press, such facts and information as will bring about a more ready acceptance of frozen foods.

ART. III. MEMBERSHIP

Sec. 1. Membership shall be composed of those individuals, groups, firms, corporations, partnerships, associations, etc., who have a scientific or commercial interest in quick-freezing; the production, transportation or distribution of frozen products, or, who are in some other way directly interested in promoting or serving the frozen foods industry.

Sec. 2. Memberships shall consist of research members, honorary members, contributing members, members and associate members.

Sec. 3. Memberships other than honorary may be represented by any duly designated member of the organization holding the membership, or, by written proxy.

Sec. 4. Each membership shall be entitled to vote on any question before the association at any regular or special meeting, and members or duly appointed representatives shall be eligible for any office in the association.

Sec. 5. Memberships must be approved by the executive council or officers designated by them, unless approved by the membership.

Sec. 6. Research members shall be composed only of non-profit, public or quasi-public organizations or groups actively conducting research experimentation or investigation on behalf of the science of quick-freezing or the production, distribution or transportation of frozen products.

Sec. 7. Honorary members shall be persons of acknowledged accomplishments on behalf of the frozen foods industry, and their rights and privileges shall be personal and non-transferable.

Sec. 8. Contributing members shall consist of those who contribute not less than $100.00 annually to the support of the association, and their certificate of membership shall show the amount and the date of their contribution.

Sec. 9. Members: Membership shall be open, subject to approval of the association, to all persons, corporations, partnerships or associations, who are interested in promoting rapid development of the frozen foods industry, for scientific, commercial or other reasons.

Sec. 10. Associate Memberships shall be open to those qualified for full membership, but who for any reason wish to qualify only as associates.

ART. IV. FEES

Sec. 1. Initiation fees, after the first year, shall be at the discretion of, and in amount fixed by the executive council.

Sec. 2. Annual dues for each classification shall be:

Research members..Complimentary
Honorary members..Complimentary
Sustaining members.$100.00 or more
Members $50.00
Associate members $25.00

until changed by a two-thirds vote of the executive council.

ART. V. NOMINATIONS

Sec. 1. At least thirty days prior to the annual meeting, the president, with the approval of the executive council, or, the executive council, shall appoint a nominating committee of five members whose duty it shall be to select candidates for executive offices to be filled at the following annual meeting.

Sec. 2. Should the candidates submitted by this committee not be approved by a majority vote of members present and entitled to vote at such annual meeting, the presiding officer shall entertain nominations from the floor.

ART. VI. OFFICERS AND DIRECTORS

Sec. 1. The affairs of the association shall be managed by the officers and directors who shall constitute the executive council.

Sec. 2. The officers shall consist of the president, not less than five nor more than ten vice-presidents and the secretary-treasurer.

Sec. 3. The directors shall be not fewer than six, nor more than twenty-four.

Sec. 4. Officers and directors shall be elected at the annual meeting by a majority vote of qualified members present, or represented by written proxy. The manner of election to be governed by the wishes of the body, or by by-laws and rules later adopted.

Sec. 5. The term of office for officers and directors shall be for one year, unless subsequently changed by the by-laws, but it is contemplated that only a portion of such officers and directors shall be retired simultaneously.

ART. VII. THE EXECUTIVE COUNCIL

Sec. 1. The executive council shall have full charge of the affairs of the association subject to the limitations of the constitution, and such limitations as may subsequently be adopted by the majority.

Sec. 2. The executive council shall have the power to fill vacancies in its membership, by appointment, until the next general election, and, for due cause to remove from office any of its members.

Sec. 3. Five members of the executive council shall constitute a quorum, provided notice of meeting has been mailed to all members at least ten days prior to such meeting, and a majority of the council shall constitute a quorum in all events.

Sec. 4. The secretary-treasurer shall perform the usual duties of such office, conduct the office of the association, be responsible for the receipt, recording and disbursement of all funds, and act as secretary of the executive council and all standing committees, subject to the control of the executive council.

Sec. 5. The executive council, when deemed advisable, may enter into contractural relations covering any phase of the association's activities, provided a majority of those present, in regular session, approve, and, provided further that dissenting votes shall not represent more than one-fourth of the votes of the total council.

Sec. 6. The executive council may, should sufficient cause arise, delegate to the secretary-treasurer or any other member of the association the performance of any duties that are required by the constitution and by-laws to be performed by the executive council or any one of its members, except the authority to enter into contracts.

Sec. 7. The executive council shall appoint such standing and special committees as it may deem advisable to best serve the interests of the association.

Sec. 8. The executive council shall submit, at the annual meeting, a report of their activities for the past year; render an accounting of all funds and property of the association and bring to the attention of the membership such matters as deemed advisable.

ART. VIII. MEETINGS

Sec. 1. The annual meeting of the association shall be at such time and place as the council may designate.

Sec. 2. Special meetings of the entire membership, or of certain groups of the membership, as may be called, at any time or place, at the discretion of the executive council, or shall be called by the executive council upon the written request of ten per cent (10%) of the membership.

Sec. 3. Notice of all annual and special meetings shall be mailed to the membership not less than thirty days in advance of such meetings.

Sec. 4. Fifty per cent (50%) of the members registered and present at any duly called meeting of the association shall constitute a quorum, unless subsequently changed by the by-laws.

Sec. 5. Any action of a quorum at any meeting of the association or of the executive council shall be held valid and binding on the association as a whole, except that any expenditure required by any action of the association shall not become operative until approved by the executive council.

ART. IX. LOCAL AND STATE ASSOCIATIONS

Sec. 1. The executive council may authorize the organization of local, state or regional sections of this association, at any time conditions seem to warrant; to fix the percentage of dues that shall be remitted to the parent association, and, whenever deemed advisable may undertake to finance the organization of such bodies.

ART. X. PAPERS AND PUBLICATIONS

Sec. 1. The executive council shall determine the means and methods of issuing the papers, proceedings and publications of the association, and, of disseminating information pertaining to the actvities and findings of the association.

ART. XI. RESOLUTIONS

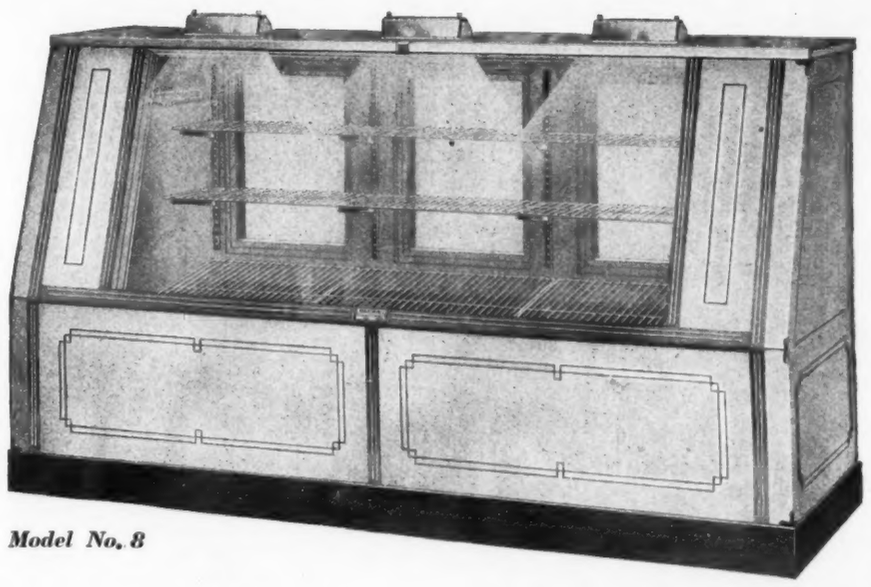
Sec. 1. Resolutions, before being placed before the membership for action, shall first be approved by the council, or by a resolutions committee appointed by the chair.

ART. XII. AMENDMENTS AND BY-LAWS

Sec. 1. The constitution may be amended by a two-thirds vote of qualified members present at any regularly constituted meeting of the association, but such amendments must have the approval of the executive council or of a duly appointed constitution committee, before being presented to the membership for action.

Sec. 2. The executive council shall constitute, or name from among its members, a by-law committee, to bring before the first annual meeting of the association recommendations for governing by-laws drawn in conformance with this constitution, and at subsequent annual meetings, recommendations for any changes or additions they may deem advisable.

for Delicatessen Stores



Model No. 8

a New Case by McCray

TO PROVIDE an efficient display case refrigerator for delicatessen use, McCray has built the new Model No. 8. Practical in design and construction, the No. 8 is strikingly handsome in appearance. Every feature emphasizes the well-known McCray standards of in-built quality.

The walls are four inches thick, insulated with two inches of pure corkboard sealed with hydrolene. Display front of three courses plate glass slopes to give full view of contents. Exterior is of snow white porcelain with Monel metal trim and black porcelain base. Rear of selected oak; light oak finish.

Three metal shelves in display compartment and ample storage space below are easily accessible through service doors in rear. Spaces at each end admit coils for machine refrigeration of any type. No changes are necessary.

Besides this delicatessen case, McCray builds models for every commercial need, both stock and to order. Dealers in machine refrigeration should consider the unfailing service and economical operation of McCray refrigerators. Send now for descriptive literature of complete line. No obligation.

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